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PHELPS-COLLINS, ALPENA, MICHIGAN. REVISED UNIFORM SUMMARY OF SU--ETC(1)
MAY 82

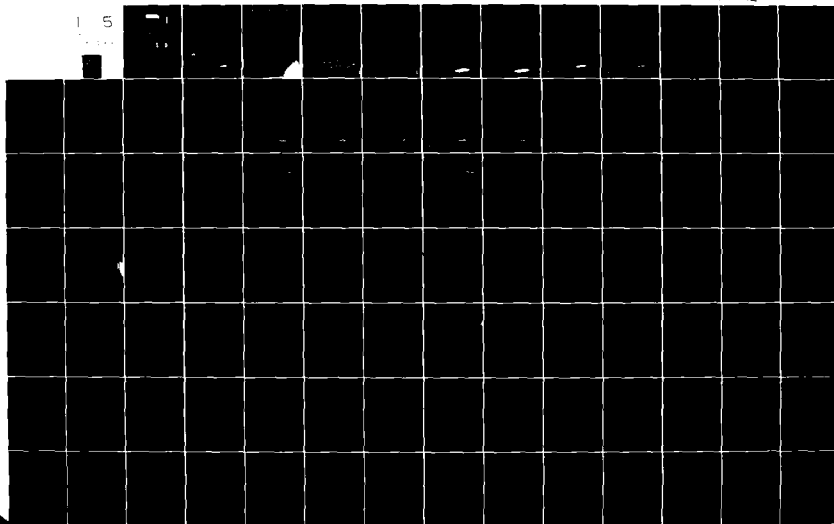
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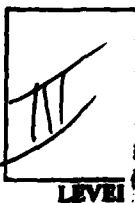
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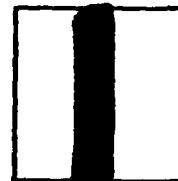
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REVISED UNIFORM SUMMARY OF
SURFACE WEATHER OBSERVATIONS

PHILPS-SCILLINE/ALPENA MI MSB #726390
N 45 04 W 083 34 FLD ELEV 689 FT APL

PAGES A-F
FOR FROM HOURLY OBS: JAN 73 - DEC 81
FOR FROM DAILY OBS: JAN 73 - DEC 81

TIME CONVERSION GMT TO LST: -5

MAY 19 1982

FEDERAL BUILDING

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Chief, Technical Information Section
USAFETAC/TST

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Information Officer (STINFO)

AOE 850 126

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM															
1. REPORT NUMBER USAFETAC/DS- 82/031	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER															
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17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)																	
18. SUPPLEMENTARY NOTES																	
19. INDEXING TERMS (Continue on reverse side if necessary and identify by block number) <table border="0"> <tr> <td>*RUSSWO</td> <td>Daily temperatures</td> <td>Atmospheric pressure</td> </tr> <tr> <td>Snowfall</td> <td>Extreme snow depth</td> <td>Extreme surface winds</td> </tr> <tr> <td>Climatology</td> <td>Sea-level pressure</td> <td>Psychrometric summary</td> </tr> <tr> <td>Surface Winds</td> <td>Extreme temperature</td> <td>Ceiling versus visibility</td> </tr> <tr> <td>Relative Humidity</td> <td>*Climatological data</td> <td>(over)</td> </tr> </table>			*RUSSWO	Daily temperatures	Atmospheric pressure	Snowfall	Extreme snow depth	Extreme surface winds	Climatology	Sea-level pressure	Psychrometric summary	Surface Winds	Extreme temperature	Ceiling versus visibility	Relative Humidity	*Climatological data	(over)
*RUSSWO	Daily temperatures	Atmospheric pressure															
Snowfall	Extreme snow depth	Extreme surface winds															
Climatology	Sea-level pressure	Psychrometric summary															
Surface Winds	Extreme temperature	Ceiling versus visibility															
Relative Humidity	*Climatological data	(over)															
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) THIS REPORT IS A SIX-PART STATISTICAL SUMMARY OF SURFACE WEATHER OBSERVATIONS FOR PHELPS-COLLINS/ALPENA, MICHIGAN. IT CONTAINS THE FOLLOWING PARTS: (A) Weather Conditions; Atmospheric Phenomena; (B) Precipitation, Snowfall and Snow Depth (daily amounts and extreme values); (C) Surface winds; (D) Ceiling versus Visibility; Sky Cover; (E) Psychrometric Summaries (daily maximum and minimum temperatures, extreme maximum and minimum temperatures, psychrometric summary of wet-bulb temperature depression versus dry-bulb temperature, means and standard deviations of dry-bulb, wet-bulb (over)																	

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SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)

19. Percentage frequency of distribution tables
Dry-bulb temperature versus wet-bulb temperature
Cumulative percentage frequency of distribution tables

MICHIGAN

PHELPS-COLLINS/ALPENA, MICHIGAN

20. and dew point temperatures and relative humidity); and (F) Pressure Summary (means, standard, deviations, and observation counts of station pressure and sea-level pressure). Data in this report are presented in tabular form, in most cases in percentage frequency of occurrence or cumulative percentage frequency of occurring tables.

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SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)

CAUTION

The reader is advised to use the daily summary sections of this Revised Uniform Summary of Surface Weather Observations (RUSSWO) with caution. Because of suspect data and broken periods of observations the daily summary was limited to a period of record (POR) from 1973-1981. Since this is much shorter than the usual POR the extremes are too conservative and even the means and percentage of days with various atmospheric phenomenon for some elements may be different from those of a thirty year summary.

The number that identifies the station in this summary is an AWS Master Station Catalog number. This number is comprised of the WMO number with the addition of a suffix zero; or, in cases where there is no designated WMO number, a 5-digit number created in agreement with WMO rules, plus a sixth qualifying digit. These numbers (also referred to as DATSAV or USAFETAC numbers) uniquely identify each of more than 15,000 reporting stations around the world. This is the provenance of the number (e.g., MSC 999999) which will appear on future OL-A standard products.

U S AIR FORCE
ENVIRONMENTAL TECHNICAL
APPLICATIONS CENTER

REVISED UNIFORM SUMMARY OF SURFACE WEATHER OBSERVATIONS

HOURLY OBSERVATIONS

Hourly observations are defined as those record or record-special observations recorded at scheduled hourly intervals.

DAILY OBSERVATIONS

Daily observations are selected from all data recorded on reporting forms and combined into Summary of the Day observations. (Selected from record-special, local, summary of the day, remarks, etc.)

DESCRIPTION OF SUMMARIES

Preceding each section is a brief description of the data comprising each part of the Revised Uniform Summary of Surface Weather Observations and the manner of presentation. Tabulations are prepared from hourly and daily observations recorded by stations operated by the U. S. Services and some foreign stations using similar reporting practices.

Unless otherwise noted the following summaries are included for this station:

PART A WEATHER CONDITIONS

ATMOSPHERIC PHENOMENA

PART B PRECIPITATION

SNOWFALL

SNOW DEPTH

PART C SURFACE WINDS

PART D CEILING VERSUS VISIBILITY

SKYCOVER

PART E DAILY MAX, MIN, & MEAN TEMP

EXTREME MAX & MIN TEMP

PSYCHROMETRIC-DRY VS WET BULB

MEAN & STD DEV
(DRY BULB, WET BULB, & DEW POINT)

RELATIVE HUMIDITY

PART F STATION PRESSURE

SEA LEVEL PRESSURE

STANDARD 3-HOUR GROUPS

All summaries requiring diurnal variations are summarized in eight 3-hour periods corresponding to the following sets of hourly observations: 0000-0200, 0300-0500, 0600-0800, 0900-1100, 1200-1400, 1500-1700, 1800-2000, 2100-2300 hours local standard time.

MISSING HOUR GROUPS

Summary sheets are omitted when stations maintaining limited observing schedules did not report certain three-hour periods for any particular month during the available period of record. Such missing sheets are listed below, and are applicable to all summaries prepared from hourly observations.

JANUARY _____

APRIL _____

JULY _____

OCTOBER _____

FEBRUARY _____

MAY _____

AUGUST _____

NOVEMBER _____

MARCH _____

JUNE _____

SEPTEMBER _____

DECEMBER _____

STATION NO ON SUMMARY	STATION NAME	LATITUDE	LONGITUDE	FIELD ELEV (FT.)	CALL SIGN	WMO NUMBER
726390	ALPENA/PHELPS COLLINS MI	N 45 04	W 083 34	689	APN	72639

STATION LOCATION AND INSTRUMENTATION HISTORY

NUMBER OF LOCATION	GEOGRAPHICAL LOCATION & NAME	TYPE OF STATION	AT THIS LOCATION		LATITUDE	LONGITUDE	ELEVATION ABOVE MSL		OBS PER DAY
			FROM	TO			FIELD (FT)	HT. BARS.	
	Alpena MI/Phelps-Collins Field	WBAS	8 Aug 59	* May 82	N 45 04	W 083 34	689	691.95	24
	* Dec 75 Last A-4 Form rec at NCC.								

NUMBER OF LOCATION	DATE OF CHANGE	SURFACE WIND EQUIPMENT INFORMATION				REMARKS, ADDITIONAL EQUIPMENT, OR REASON FOR CHANGE
		LOCATION	TYPE OF TRANSMITTER	TYPE OF RECORDER	HT ABOVE GROUND	
1	Sep 59	Located on the roof	F-104	F-420C	33	Latest copy Nov 1980
2	Dec 68	Same	F-420C	Same	Same	
3	Jul 74	Ground	Same	Same	22	

PART A

WEATHER CONDITIONS

This summary is a percentage frequency occurrence of various atmospheric phenomena and obstructions to vision, derived from hourly observations, and is presented in two tables as follows:

1. By month and annual, all hours and years combined.
2. By month, all years combined, by standard 3-hour groups.

A percent value of ".0" in these tables indicates less than .05 percent, which is usually only one occurrence. The various phenomena included in each category on the forms are listed below:

Thunderstorms - All reported occurrences of thunderstorms, tornado, and waterspout.

Rain and/or drizzle - All liquid precipitation, falling to the ground, not freezing.

Freezing rain and/or freezing drizzle (glaze) - Precipitation falling in liquid form, but freezing on contact with an unheated surface.

Snow and/or sleet (ice pellets) - Included are snow, snow pellets, sleet, snow grains, ice crystals, and ice pellets from Jan 68 and later. (Snow pellets also known as soft hail)

Hail - Occurrences of hail and small hail are included.

Percentage of observations with precipitation - Included in this category are the observations when one or more of the above phenomena occurred. Since more than one type of precipitation may be reported in the same observation, the sum of the individual categories may exceed the percentages of the observations with precip.

Fog - Included are fog, ice fog, and ground fog.

Smoke and/or haze - Occurrences of smoke, haze, or combinations of smoke and haze are included.

Blowing snow - Occurrences of blowing snow (also drifting snow when reported from non-WEAN sources).

Dust and/or sand - Included are blowing dust, blowing sand, and dust.

Continued on Reverse

Blowing spray - This item if reported, is not shown in a separate category on this form but is included in the computation Percentage of Observations with Obstructions to Vision, below.

Percentage of observations with obstructions to vision - Included in this category are the observations when one or more of the above obstructions to vision occurred. Since more than one type of obstruction may be reported in the same observation, the sums of the individual categories may exceed the percentage total columns. Also, although precipitation may reduce visibility, it is not considered an obstruction to vision for purposes of this summary; therefore, the percentage total of obstructions to vision need not reflect the total observations with reduced visibility.

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

WEATHER CONDITIONS

1959 STATION PHELPS-COLLINS/ALPENA MI 73-81 YEARS JAN MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE OF WEATHER CONDITIONS FROM HOURLY OBSERVATIONS

MONTH	HOURS (L.S.T.)	THUNDER- STORMS	RAIN AND/OR DRIZZLE	FREEZING RAIN & /OR DRIZZLE	SNOW AND/OR SLEET	HALE	% OF OBS WITH PRECIP.	FOG	SMOKE AND/OR HAZE	BLOWING SNOW	DUST AND/OR SAND	% OF OBS WITH OBST TO VISION	TOTAL NO. OF OBS.
JAN	00-02		2.7	.4	42.8		45.7	6.2	1.1	2.8		9.5	818
	03-05		2.1	1.0	45.4		47.7	5.8	.7	3.6		9.7	813
	06-08		2.3	1.7	47.9		51.1	7.5	1.5	4.4		15.0	826
	09-11		2.4	2.1	42.8		46.5	10.4	2.4	3.8		16.2	820
	12-14		2.0	.4	38.1		40.3	7.5	2.8	4.8		14.7	817
	15-17		1.6	.5	28.2		30.3	6.0	2.8	3.2		11.6	816
	18-21		1.9	.4	34.5		36.7	8.0	2.2	1.6		11.6	821
	21-23		2.3	.4	40.9		43.1	6.1	1.7	1.7		9.1	821
TOTALS			2.2	.9	40.1		42.7	7.2	1.9	3.2		11.9	6552

ALPINE CLIMATOLOGY BRANCH
 AF-140
 WEATHER SERVICE/MAC

WEATHER CONDITIONS

39. PHILIPS-COLLINS/ALPENA MI 73-81 YEARS FEB MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE OF WEATHER CONDITIONS FROM HOURLY OBSERVATIONS

MONTH	HOURS (L.S.T.)	THUNDER- STORMS	RAIN AND/OR DRIZZLE	FREEZING RAIN & /OR DRIZZLE	SNOW AND/OR SLEET	HAIL	% OF OBS WITH PRECIP.	FOG	SMOKE AND/OR HAZE	BLOWING SNOW	DUST AND/OR SAND	% OF OBS WITH OBST TO VISION	TOTAL NO. OF OBS.
FEB	00-01		1.7	1.1	32.1		34.5	8.9	1.3	1.2		10.7	745
	02-03		1.3	.3	37.2		38.6	8.8	1.3	2.5		12.3	748
	04-05		1.6	.9	41.4		43.6	9.7	2.4	1.1		12.5	754
	06-11		2.3	.7	39.2		42.2	11.8	5.5	2.4		18.4	752
	12-14		2.4	.4	33.3		35.6	8.4	4.3	5.2		17.6	750
	15-17		2.4	.3	29.4		31.8	8.4	3.8	3.9		15.5	742
	18-20		2.0	.4	24.4		26.4	8.7	2.0	1.7		12.2	743
	21-23		2.1	1.2	30.5		32.8	7.0	1.5	2.0		10.4	747
TOTALS			2.0	.7	33.4		35.7	9.0	2.8	2.5		13.7	5981

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

WEATHER CONDITIONS

7-7390
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

MAR
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE OF WEATHER CONDITIONS FROM HOURLY OBSERVATIONS

MONTH	HOURS (L.S.T.)	THUNDER- STORMS	RAIN AND/OR DRIZZLE	FREEZING RAIN & /OR DRIZZLE	SNOW AND/OR SLEET	HAIL	% OF OBS WITH PRECIP.	FOG	SMOKE AND/OR HAZE	BLOWING SNOW	DUST AND/OR SAND	% OF OBS WITH OBST TO VISION	TOTAL NO. OF OBS.
MAR	00-04		7.2	1.6	19.0		27.3	13.8	3.4	1.1		17.7	820
	05-09	.2	6.1	1.1	23.6		30.3	15.5	1.9	1.3		18.4	821
	06-08		6.1	1.9	20.4		27.8	20.4	3.0	1.3		23.2	825
	09-11		6.1	1.6	16.5		23.4	16.4	5.7	2.1		23.0	819
	12-14		5.2	.7	14.8		20.1	11.7	6.1	1.6		18.9	820
	15-17	.1	6.1	.6	12.9		19.1	9.7	6.2	.9		16.6	821
	18-20	.1	6.6	1.0	13.7		20.6	11.4	4.5	.6		16.0	819
	21-23	.7	6.3	1.5	16.7		23.7	11.3	3.1	1.1		14.9	826
TOTALS		.1	6.2	1.3	17.2		24.0	13.8	4.2	1.3		18.6	6571

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

WEATHER CONDITIONS

75390 PHELPS-COLLINS/ALPENA MI 73-81 APH
STATION STATION NAME YEARS MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE OF WEATHER CONDITIONS FROM HOURLY OBSERVATIONS

MONTH	HOURS (L.S.T.)	THUNDER- STORMS	RAIN AND/OR DRIZZLE	FREEZING RAIN & /OR DRIZZLE	SNOW AND/OR SLEET	HAIL	% OF OBS WITH PRECIP.	FOG	SMOKE AND/OR HAZE	BLOWING SNOW	DUST AND/OR SAND	% OF OBS WITH OBST TO VISION	TOTAL NO. OF OBS.
APR	00-02	1.0	10.4	.3	6.2	.1	16.6	14.2	.5	.5		15.2	787
	03-05	.5	8.5	.5	7.3		15.5	14.2	.4	.9		15.3	791
	06-08		8.4	.5	7.3		15.4	15.0	2.4	1.0		17.6	799
	09-11	.3	10.1		5.8		15.5	10.9	3.1	1.1		14.5	795
	12-14	.5	9.5		4.7		13.9	9.7	2.9	.4		12.8	792
	15-17	1.0	10.2	.1	5.3		15.3	11.4	2.1	.1		13.6	795
	18-20	1.1	11.9	.1	5.4		17.0	12.3	2.9			14.8	795
	21-23	.4	12.9	.4	6.0		18.5	12.9	1.6	.4		14.7	796
TOTALS		.6	10.2	.2	6.0	.0	16.0	12.6	2.0	.6		14.8	6350

2
LOCAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAJ

WEATHER CONDITIONS

7639U
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

MAY
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE OF WEATHER CONDITIONS FROM HOURLY OBSERVATIONS

MONTH	HOURS (L.S.T.)	THUNDER- STORMS	RAIN AND/OR DRIZZLE	FREEZING RAIN & /OR DRIZZLE	SNOW AND/OR SLEET	HAIL	% OF OBS WITH PRECIP.	FOG	SMOKE AND/OR HAZE	BLOWING SNOW	DUST AND/OR SAND	% OF OBS WITH OBST TO VISION	TOTAL NO. OF OBS.
MAY	00-02	.4	7.4		.7		8.1	12.8	5.4			17.2	818
	03-05		9.9		.4		10.3	15.4	5.3			18.7	816
	06-08	.1	10.9		.6		11.6	19.3	8.2			24.0	822
	09-11	.1	10.8		.6		11.3	9.1	9.4			17.9	822
	12-14	.6	8.2		.6		8.7	6.0	9.4			14.8	820
	15-17	2.7	9.3		.7		10.0	6.1	8.6			13.9	821
	18-20	1.6	10.0		.6		10.5	9.2	7.3			15.6	826
	21-23	.7	8.9		.7		9.4	12.0	6.2			17.2	819
TOTALS		.7	9.4		.6		10.0	11.2	7.5			17.4	6560

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

WEATHER CONDITIONS

776390
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

JUN
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE OF WEATHER CONDITIONS FROM HOURLY OBSERVATIONS

MONTH	HOURS (L.S.T.)	THUNDER- STORMS	RAIN AND/OR DRIZZLE	FREEZING RAIN & /OR DRIZZLE	SNOW AND/OR SLEET	HALE	% OF OBS WITH PRECIP.	FOG	SMOKE AND/OR HAZE	BLOWING SNOW	DUST AND/OR SAND	% OF OBS WITH OBST TO VISION	TOTAL NO. OF OBS.
JUN	00-02	1.3	7.3				7.3	12.4	9.0			18.7	791
	03-05	1.4	7.5				7.5	16.9	9.4			22.4	795
	06-08	.4	8.6				8.6	18.1	12.2			27.1	792
	09-11	.4	6.9				6.9	7.1	9.8			16.6	794
	12-14	1.1	7.8				7.8	4.0	7.6			11.5	794
	15-17	2.1	8.6				8.6	4.7	8.1			12.1	792
	18-20	1.9	7.9				7.9	5.2	10.1			14.6	796
	21-23	1.0	8.3				8.3	8.8	10.5			17.9	793
TOTALS		1.2	7.9				7.9	9.7	9.6			17.6	6347

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

WEATHER CONDITIONS

701390
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEAR

JUL
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE OF WEATHER CONDITIONS FROM HOURLY OBSERVATIONS

MONTH	HOURS (L.S.T.)	THUNDER- STORMS	RAIN AND/OR DRIZZLE	FREEZING RAIN & /OR DRIZZLE	SNOW AND/OR SLEET	HALE	% OF OBS WITH PRECIP.	FOG	SMOKE AND/OR HAZE	BLOWING SNOW	DUST AND/OR SAND	% OF OBS WITH OBST TO VISION	TOTAL NO. OF OBS.
JUL	00-02	2.2	4.7				4.7	16.5	14.2			24.1	610
	03-05	2.7	6.7				6.7	24.0	13.0			29.1	622
	06-08	2.0	7.7				7.7	23.5	16.2			33.1	610
	09-11	1.0	5.9				5.9	5.3	15.5			20.1	615
	12-14	1.9	5.5				5.5	4.1	13.8			17.1	621
	15-17	2.1	6.3				6.3	4.1	13.9			17.3	622
	18-20	2.6	4.2				4.2	5.2	15.6			19.2	613
	21-23	2.3	4.9				4.9	12.5	15.2			22.1	622
TOTALS		2.1	5.7				5.7	11.9	14.7			22.8	6535

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GLOBAL CLIMATOLOGY BRANCH
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176390
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PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEAR

AUG
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE OF WEATHER CONDITIONS FROM HOURLY OBSERVATIONS

MONTH	HOURS (L.S.T.)	THUNDER- STORMS	RAIN AND/OR DRIZZLE	FREEZING RAIN & /OR DRIZZLE	SNOW AND/OR SLEET	HAIL	% OF OBS WITH PRECIP.	FOG	SMOKE AND/OR HAZE	BLOWING SNOW	DUST AND/OR SAND	% OF OBS WITH OBST TO VISION	TOTAL NO. OF OBS.
AUG	00-02	1.1	8.0				8.0	19.8	10.6			26.2	814
	03-05	.6	5.9				5.9	25.9	9.3			30.5	799
	06-08	1.1	5.4				5.4	30.4	12.5			37.0	810
	09-11	1.0	6.6				6.6	11.1	16.7			25.3	813
	12-14	1.0	6.8				6.8	5.8	15.8			20.4	810
	15-17	2.1	6.1				6.1	7.0	16.0			21.0	815
	18-20	3.2	7.2				7.2	12.2	15.4			24.8	814
	21-23	1.8	7.8				7.8	16.7	15.3			28.4	812
TOTALS		1.5	6.7				6.7	16.1	14.0			26.7	6487

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

WEATHER CONDITIONS

12390 PHELPS-COLLINS/ALPENA MI 73-81 SEP
STATION STATION NAME YEARS MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE OF WEATHER CONDITIONS FROM HOURLY OBSERVATIONS

MONTH	HOURS (L.S.T.)	THUNDER- STORMS	RAIN AND/OR DRIZZLE	FREEZING RAIN & /OR DRIZZLE	SNOW AND/OR SLEET	HALE	% OF OBS WITH PRECIP.	FOG	SMOKE AND/OR HAZE	BLOWING SNOW	DUST AND/OR SAND	% OF OBS WITH OBST TO VISION	TOTAL NO. OF OBS.
SEP	00-02	.3	9.9				9.9	15.1	5.0			17.0	784
	03-05	1.5	9.7				9.7	16.5	4.2			18.7	793
	06-08	.9	11.2				11.2	22.0	5.9			25.4	796
	09-11	.4	10.0				10.0	11.5	9.2			19.2	780
	12-14	.4	7.4				7.4	6.0	6.2			11.8	794
	15-17	1.3	9.5				9.5	7.5	6.1			12.4	788
	18-20	.5	10.2				10.2	10.5	6.1			14.4	791
	21-23	.6	10.1				10.1	11.3	4.3			14.0	795
TOTALS		.7	9.8				9.8	12.6	5.9			16.6	6321

USAFETAC FORM 8-10-76 (A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

WEATHER CONDITIONS

126390
STATION

PHILIPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

OCT
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE OF WEATHER CONDITIONS FROM HOURLY OBSERVATIONS

MONTH	HOURS (L.S.T.)	THUNDER- STORMS	RAIN AND/OR DRIZZLE	FREEZING RAIN & /OR DRIZZLE	SNOW AND/OR SLEET	HAZ	% OF OBS WITH PRECIP.	FOG	SMOKE AND/OR HAZE	BLOWING SNOW	DUST AND/OR SAND	% OF OBS WITH OBST TO VISION	TOTAL NO. OF OBS.
OCT	00-02	.4	9.9		4.2		13.9	14.6	4.1			17.5	808
	03-05	.5	9.4		3.1		12.4	16.5	4.3			19.5	806
	06-08		10.2		3.5		13.4	22.7	5.0			25.1	821
	09-11	.1	11.6		2.3		13.8	13.7	8.7			20.0	817
	12-14		11.4		1.2		12.5	5.7	7.2			12.9	814
	15-17		9.4		1.6		10.9	5.9	5.9			11.2	820
	18-20	.2	11.4		2.6		12.7	9.4	7.2			14.7	817
	21-23	.5	12.2		3.9		15.3	12.6	5.8			16.4	823
TOTALS		.2	10.7		2.8		13.2	12.5	6.1			17.2	6526

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

WEATHER CONDITIONS

128399
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

NOV
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE OF WEATHER CONDITIONS FROM HOURLY OBSERVATIONS

MONTH	HOURS (L.S.T.)	THUNDER- STORMS	RAIN AND/OR DRIZZLE	FREEZING RAIN & /OR DRIZZLE	SNOW AND/OR SLEET	HAIL	% OF OBS WITH PRECIP.	FOG	SMOKE AND/OR HAZE	BLOWING SNOW	DUST AND/OR SAND	% OF OBS WITH OBST TO VISION	TOTAL NO. OF OBS.
NOV	00-02		9.4	.1	16.5		25.9	13.1	3.1	.1		15.8	784
	03-05		9.0		17.6		25.7	14.3	2.4			15.8	791
	06-08		9.2	.3	20.4		29.1	20.6	3.4			21.8	793
	09-11		9.2		20.0		29.0	19.6	5.2	.4		23.4	786
	12-14		10.2		17.9		27.6	12.0	4.9	.4		16.6	782
	15-17		9.3		15.7		24.7	12.9	4.3	.3		17.1	789
	18-20		9.0		16.9		25.8	14.0	3.7	.5		17.4	792
	21-23	.1	8.9	.1	16.7		25.5	13.7	2.5	.4		15.7	795
TOTALS		.0	9.3	.1	17.7		26.7	15.0	3.7	.3		18.0	6312

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GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AL- WEATHER SERVICE/MAC

WEATHER CONDITIONS

126390
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

DEC
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE OF WEATHER CONDITIONS FROM HOURLY OBSERVATIONS

MONTH	HOURS (L.S.T.)	THUNDER- STORMS	RAIN AND/OR DRIZZLE	FREEZING RAIN & /OR DRIZZLE	SNOW AND/OR SLEET	HAIL	% OF OBS WITH PRECIP.	FOG	SMOKE AND/OR HAZE	BLOWING SNOW	DUST AND/OR SAND	% OF OBS WITH OBST TO VISION	TOTAL NO. OF OBS.
DEC	00-02		3.0	.4	31.1		34.3	9.7	1.4	1.2		12.1	808
	03-05		2.1	.4	31.9		34.4	10.2	1.9	.5		12.3	802
	06-08		4.1	1.0	40.9		45.5	13.4	1.9	1.1		16.2	822
	09-11		4.3	1.0	37.3		42.0	17.0	2.5	2.1		20.4	810
	12-14		3.4	.6	36.5		40.2	15.1	3.4	2.5		20.2	816
	15-17		2.8	.5	31.5		34.5	12.1	4.6	2.1		18.5	809
	18-20		3.9	1.0	31.9		36.3	11.5	4.2	1.2		16.3	816
	21-23		4.9	.7	36.5		40.8	10.9	3.3	1.3		15.2	817
TOTALS			3.6	.7	34.7		38.5	12.5	2.9	1.5		16.4	6500

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

WEATHER CONDITIONS

176390
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

ALL
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE OF WEATHER CONDITIONS FROM HOURLY OBSERVATIONS

MONTH	HOURS (L.S.T.)	THUNDER- STORMS	RAIN AND/OR DRIZZLE	FREEZING RAIN & /OR DRIZZLE	SNOW AND/OR SLEET	HALE	% OF OBS WITH PRECIP.	FOG	SMOKE AND/OR HAZE	BLOWING SNOW	DUST AND/OR SAND	% OF OBS WITH OBST TO VISION	TOTAL NO. OF OBS.
JAN	ALL		2.2	.9	40.1		42.7	7.2	1.9	3.2		11.9	6552
FEB			2.0	.7	33.4		35.7	9.0	2.8	2.5		13.7	5981
MAR		.1	6.2	1.3	17.2		24.0	13.8	4.2	1.3		18.6	6571
APR		.6	10.2	.2	6.0	.0	16.0	12.6	2.0	.6		14.8	6350
MAY		.7	9.4		.6		10.0	11.2	7.5			17.4	6560
JUN		1.2	7.9				7.9	9.7	9.6			17.6	6347
JUL		2.1	5.7				5.7	11.9	14.7			22.8	6535
AUG		1.5	6.7				6.7	16.1	14.0			26.7	6487
SEP		.7	9.8				9.8	12.6	5.9			16.6	6321
OCT		.2	10.7		2.8		13.2	12.5	6.1			17.2	6526
NOV		.0	9.3	.1	17.7		26.7	15.0	3.7	.3		16.0	6312
DEC			3.6	.7	34.7		38.5	12.5	2.9	1.5		16.4	6500
TOTALS		.6	7.0	.3	12.7	.0	19.7	12.0	6.3	.8		17.6	77042

PART A

ATMOSPHERIC PHENOMENA

This summary is a presentation of the percentage of days with occurrence of various atmospheric phenomena. These data are obtained from all recorded information on the reporting forms or from hourly data and combined into a daily observation.

The descriptions of the phenomena in the Weather Conditions Summary above also apply for the categories summarized in these daily tabulations. However, it should be noted that in this summary the columns headed "% OF OBS WITH PRECIP" and "% OF OBS WITH OBST TO VISION" show the percentage of days rather than the percentage of observations. Since more than one type of precipitation or more than one type of obstruction may occur in the same daily observation, the sum of the values in the individual categories may differ from the total columns.

A percent value of ".0" in the table indicates less than .05 percent, which is usually only one occurrence.

This presentation is by month with annual totals, and is prepared with all years combined.

- NOTES: (1) A day with rain and/or drizzle was not separately reported in the WBAW data prior to year 1949. Therefore, percentages in this column are restricted to the period Jan 1949 and later.
- (2) A day with freezing rain and/or freezing drizzle is also properly reported as a day with rain and/or drizzle.
- (3) A day with dust and/or sand is included in this summary only when visibility is reduced to less than 5/8 mile.

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

XX **WEATHER CONDITIONS** XXXXXXXXXXXXXXXXXXXXXXXXXXXX
ATMOSPHERIC PHENOMENA

139 STATION PHELPS-COLLINS/ALPENA MI 73-81 YEARS ALL MONTH

PERCENTAGE OF DAYS WITH VARIOUS ATMOSPHERIC PHENOMENA
FROM DAILY OBSERVATIONS

MONTH	HOURS (L.S.T.)	THUNDER- STORMS	RAIN AND/OR DRIZZLE	FREEZING RAIN & /OR DRIZZLE	SNOW AND/OR SLEET	HAIL	% OF OBS WITH PRECIP.	FOG	SMOKE AND/OR HAZE	BLOWING SNOW	DUST AND/OR SAND	% OF OBS WITH OBST TO VISION	TOTAL NO. OF OBS.
JAN	DAILY		14.1	6.9	88.0		91.3	23.6	9.1	14.2		37.6	275
FEB			12.6	5.9	11.2		19.5	28.5	16.5	11.0		41.1	254
MAR		3.6	32.3	7.2	53.4	.4	72.0	41.2	17.9	6.5		47.5	279
APR		8.9	44.4	1.9	23.0	1.1	53.7	35.2	14.8	1.5		38.9	270
MAY		10.8	44.6		3.9	.7	45.9	41.6	22.6			46.6	279
JUN		11.4	55.2			.4	55.2	43.3	29.3		.4	50.7	270
JUL		22.9	44.1			.4	44.1	47.1	42.1			55.6	274
AUG		19.4	48.0			.4	48.0	52.0	41.9			58.8	279
SEP		11.1	53.0		.4	.7	53.0	45.6	22.2			48.5	270
OCT		4.7	55.2		17.9		62.0	42.3	21.9			47.3	279
NOV		.1	31.0	.1	52.6		73.3	42.2	15.2	1.1		46.5	270
DEC			21.9	9.1	79.9		87.5	36.2	12.2	10.4		45.7	279
TOTALS		8.3	38.5	2.6	33.0	.3	63.8	39.9	22.2	3.7	.0	47.1	3283

U S AIR FORCE
ENVIRONMENTAL TECHNICAL
APPLICATIONS CENTER

PART B PRECIPITATION, SNOWFALL & SNOW DEPTH

This part of the Uniform Summary consists of eight summaries derived from daily observations as follows:

1. The first set presents, in three tables, the percentage frequency of various daily amounts of PRECIPITATION, SNOWFALL, and SNOW DEPTH. The daily amount summary is prepared by month and annual, all years combined, and includes percent of days with measurable amounts; percent of days having none, traces, and given amounts; and means, greatest and least monthly amounts. (The last three statistics are omitted from the snow depth summary because of their doubtful and limited value.) A total count of valid observations is given for months and annual. Stations are included in which a portion or all of the period may contain months with missing days. This will be noted on the summary pages. A percent value of ".0" in these daily amount tables indicates less than .05 percent which is usually only one occurrence.
2. The second set of three tables presents the extreme daily amounts, by individual year and month, of PRECIPITATION, SNOWFALL, and SNOW DEPTH for the entire period of record available. Also provided are the means and standard deviations for each month and annual (all months) and the total valid observation count. An asterisk (*) is printed in any year-month block when the extreme value is based on an incomplete month (at least one day missing for the month). When a month has valid observations reported but no occurrences, zeros are given in the tables as follows:

EXTREME DAILY PRECIPITATION	"00"	equals none for the month (hundredths)
EXTREME DAILY SNOWFALL	"0"	equals none for the month (tenths)
EXTREME DAILY SNOW DEPTH	"0"	equals none for the month (whole inches)

3. The third set of two tables provides the total monthly amounts of PRECIPITATION and SNOWFALL for each year-month and annual. Also prepared are the means, standard deviations, and total number of valid observations for each month and annual (all months). An asterisk (*) is printed in each data block if one or more days are missing for the month. No occurrences for a month are indicated in the same manner as in the extreme tables above. If a trace becomes the extreme or monthly total in any of these tables it is printed as "TRACE."

Continued on Reverse Side

* Values for means and standard deviations do not include measurements from incomplete months.

- NOTES: (1) The above studies may also be prepared for stations operating for less than full months for portions or all of the period of record. This may include stations operating 5 or 6 days a week and those with only random days missing. An asterisk (*) in the data blocks will give an indication that a month is incomplete. Please refer to Station History at front of book and observation counts in each summary to evaluate the amounts of data missing.
- (2) Hail was included in snowfall occurrences in the summary of day observations prior to Jan 56, but these occurrences have been removed from snowfall category and counted as Hail in these summaries.
- (3) Snow Depth was recorded and punched at various hours during the period available from U. S. operated stations. The hours used by each service for each period are as follows:

Air Force Stations:

Beginning thru 1945	at 0800LST
Jan 46-May 57	at 1230GMT
Jun 57-present	at 1200GMT

U. S. Navy and National Weather Service (USWB)

Beginning thru Jun 52	at 0000GMT
Jul 52-May 57	at 1230GMT
Jun 57-present	at 1200GMT

2

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

DAILY AMOUNTS

PERCENTAGE FREQUENCY OF
PRECIPITATION
(FROM DAILY OBSERVATIONS)

120390
STATION

PHILIPS-COLLINS/ALPENA MI
STATION NAME

73-81

YEARS

PRECIP	AMOUNTS (INCHES)													PERCENT OF DAYS WITH MEASUR- ABLE AMTS	TOTAL NO. OF OBS.	MONTHLY AMOUNTS (INCHES)		
	NONE	TRACE	01	.02-.05	.06-10	.11-.25	.26-.50	.51-1.00	1.01-2.50	2.51-5.00	5.01-10.00	10.01-20.00	OVER 20.00			MEAN	GREATEST	LEAST
SNOWFALL	NONE	TRACE	01-0.4	0.5-1.4	1.5-2.4	2.5-3.4	3.5-4.4	4.5-6.4	6.5-10.4	10.5-13.4	13.5-25.4	25.5-50.4	OVER 50.4					
SNOW- DEPTH	NONE	TRACE	1	2	3	4-6	7-12	13-24	25-36	37-48	49-60	61-120	OVER 120					
JAN	17.0	49.1	7.5	11.8	8.6	7.9	3.2	1.4	.4					40.9	279	1.68	5.51	.46
FEB	20.5	41.3	7.9	11.4	7.9	5.9	3.1	1.6	.4					38.2	254	1.30	2.24	.47
MAR	28.0	28.3	8.6	9.7	9.0	9.3	3.6	3.6						43.7	279	1.90	4.44	.64
APR	45.5	17.8	3.3	8.9	3.3	6.7	9.3	4.4						35.9	270	2.47	4.15	1.18
MAY	54.1	12.2	2.2	5.7	5.0	7.2	9.0	4.3	.4					33.7	279	2.71	4.83	1.14
JUN	44.8	20.0	4.4	6.7	6.3	8.1	4.4	3.3	1.9					35.2	270	2.47	3.34	1.14
JUL	55.9	12.5	2.2	6.1	3.6	8.6	4.3	2.5	3.9	.4				31.5	279	3.78	7.17	1.50
AUG	52.0	13.6	3.2	6.8	4.3	6.1	6.1	6.1	1.4	.4				34.4	279	3.45	5.76	2.03
SEP	47.0	14.4	2.6	11.1	7.8	7.4	3.7	4.4	1.5					38.5	270	2.63	6.09	.28
OCT	37.0	24.4	5.7	9.3	6.5	8.8	5.4	1.8	.7					38.0	279	1.95	4.03	.91
NOV	26.7	34.1	5.8	10.4	8.1	6.5	4.8	1.9						39.3	274	1.80	2.51	.79
DEC	12.5	38.0	9.7	16.5	7.2	10.8	3.2	2.2						49.5	279	1.64	2.28	.61
ANNUAL	36.3	25.5	5.2	9.5	6.5	7.9	5.0	3.1	.9	.1				38.2	3287	27.58		

USAFETAC FORM 0-15-5 (OL A)
OCT 78

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

(FROM DAILY OBSERVATIONS)

YEARS

[illegible]

NOTE * (BASED ON LESS THAN FULL MONTHS)

USAF ETAC FORM 88-64 0-88-5 (OL A)

2

(FROM DAILY OBSERVATIONS)

75-81

YEARS

NOTE * (BASED ON LESS THAN FULL MONTHS)

0-99-5 (ÖL A)

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

DAILY AMOUNTS

PERCENTAGE FREQUENCY OF
SNOWFALL
(FROM DAILY OBSERVATIONS)

726390
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

PRECIP	AMOUNTS (INCHES)													PERCENT OF DAYS WITH MEASUR- ABLE AMTS	TOTAL NO OF OBS.	MONTHLY AMOUNTS (INCHES)		
	NONE	TRACE	01	02-05	06-10	11-25	26-50	51-100	101-250	251-500	501-1000	1001-2000	OVER 2000			MEAN	GREATEST	LEAST
SNOWFALL	NONE	TRACE	01-0.4	0.5-1.4	1.5-2.4	2.5-3.4	3.5-4.4	4.5-6.4	6.5-10.4	10.5-15.4	15.5-25.4	25.5-50.4	OVER 50.4					
SNOW DEPTH	NONE	TRACE	1	2	3	4-6	7-12	13-24	25-36	37-48	49-60	61-120	OVER 120					
JAN	13.3	38.4	18.6	14.3	7.9	3.9	.7	1.8	.7		.4			48.4	279	20.2	43.5	9.6
FEB	22.4	31.5	19.3	17.3	3.1	3.5	1.2		.8	.4				45.7	254	14.5	20.5	8.3
MAR	46.6	21.1	12.2	12.9	3.2	1.8	1.4	.4	.4					32.3	279	10.5	18.9	3.4
APR	77.4	14.1	3.4	1.1	1.4	1.9	.4	.7						8.9	210	4.7	12.3	TRACE
MAY	96.1	2.5	.7		.4		.4							1.4	279	.7	3.7	.0
JUN	100.0														270	.0	.0	.0
JUL	100.0														279	.0	.0	.0
AUG	100.0														279	.0	.0	.0
SEP	79.6	.4													270	TRACE	TRACE	.0
OCT	82.1	14.3	2.2	1.4										3.6	279	.5	2.5	TRACE
NOV	47.4	34.4	5.9	6.3	1.5	1.9	1.9	.7						18.1	270	8.1	19.5	3.4
DEC	20.1	29.7	18.3	16.1	8.6	2.5	1.8	1.8	.7	.4				50.2	279	21.3	32.2	12.6
ANNUAL	67.1	15.5	6.7	5.8	2.2	1.3	.6	.4	.2	.1	.0			17.4	3287	80.5		

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SNOWFALL

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73-01

STATION

STATION NAME

YEARS

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~~NOTE - BASED ON LESS THAN FULL MONTHS)~~

USAF ETAC FORM 0-88-5 (OL A)

FORM
AL 64

2

(FROM DAILY OBSERVATIONS)

75-81

YEARS

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NOTE * BASED ON LESS THAN FULL MONTHS)

FORM
JL 64

0-00-5 (ÖL A)

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

DAILY AMOUNTS

PERCENTAGE FREQUENCY OF
SNOW DEPTH
(FROM DAILY OBSERVATIONS)

120390
STATION

PHILIPS-COLLINS/ALPENA MI
STATION NAME

15-81

YEARS

	AMOUNTS (INCHES)													PERCENT OF DAYS WITH MEASUR- ABLE AMTS	TOTAL NO OF OBS.	MONTHLY AMOUNTS (INCHES)		
PRECIP	NONE	TRACE	01	02-05	06-10	11-25	26-50	51-100	101-250	251-500	501-1000	1001-2000	OVER 2000			MEAN	GREATEST	LEAST
SNOWFALL	NONE	TRACE	01-04	05-14	15-24	25-34	35-44	45-64	65-104	105-154	155-254	255-504	OVER 504					
SNOW- DEPTH	NONE	TRACE	1	2	3	4-6	7-12	13-24	25-36	37-48	49-60	61-120	OVER 120					
JAN	3.0	5.0	2.2	8.6	10.0	11.5	30.8	26.2	2.2					91.4	279			
FEB	2.4	3.1	3.9	5.5	6.3	15.7	28.7	28.7	5.5					94.5	254			
MAR	21.4	15.3	6.1	4.3	3.9	12.2	20.4	17.9						64.9	279			
APR	14.4	10.0	4.4	3.3	1.5	5.2	1.1							15.6	270			
MAY	48.0	.4	.4	.7										1.1	474			
JUN	100.0														270			
JUL	100.0														279			
AUG	100.0														279			
SEP	100.0														270			
OCT	47.1	2.5	.4											.4	279			
NOV	65.9	15.2	7.0	3.3	4.1	2.2	1.9	.4						18.9	270			
DEC	6.5	10.4	13.4	15.4	13.5	19.7	19.4	1.8						83.2	279			
ANNUAL	64.2	5.0	3.2	3.4	3.3	5.5	8.5	6.2	.4					30.8	3287			

2

SNOW DEPTH

(FROM DAILY OBSERVATIONS)

75-61

STATION

STATION NAME

YEARS

DAILY SNOW DEPTH IN INCHES

[illegible]

NOTE * (BASED ON LESS THAN FULL MONTHS)

FORM
AE 64

0-99-3 (OL A)

U S AIR FORCE
ENVIRONMENTAL TECHNICAL
APPLICATIONS CENTER

PART C

SURFACE WINDS

Presented in this part are various tabulations of surface winds as follows:

- *1. Extreme Values - Peak Gusts: Derived from daily observations and presented by individual year and month for the entire period of record available. Speeds are presented in knots, while directions are given in 16 compass points from the beginning of record through June 1968, and in tens of degrees starting in July 1968. The extreme is selected and printed from available peak gusts for each year-month, however an asterisk (*) is printed in the data block if less than 90% (3 or more missing observations) of the peak gusts are available for the month. An ALL MONTHS value is presented when every month of the year has valid observations. Means and standard deviations are also computed when four or more values are present for any column. A total raw count of valid observations is presented for each month and ALL MONTHS.

NOTE: According to Federal Meteorological Handbook No. 1 specifications (formerly Circular N), "peak gust data are recorded only at stations with continuous instantaneous wind-speed recorders."

- *2. Bivariate percentage frequency tabulations: Derived from hourly observations, these tabulations are a percentage frequency of wind directions to 16 compass points and calm by wind speeds (knots) in increments of Beaufort classifications. Percentages are shown by both directions and speed, and in addition the mean wind speed is given for each direction.

A separate category is provided on the form for variable winds, which are reported in some data sources. In these data where light and variable winds are reported with no directions but with speeds given, the speeds will be summarized in the appropriate groups opposite the column headed VARIABLE.

- a. Three tables are prepared for ALL WEATHER surface winds, all years combined, by: (1) Annual - all hours combined, (2) By month - all hours combined, and (3) By month - by standard 3-hour groups.
- b. A separate annual table is also presented for surface winds meeting INSTRUMENT CLASS conditions as follows: Ceiling 200 through 1400 feet inclusive with visibility equal to or greater than 1/2 mile, and/or visibility 1/2 through 2-1/2 miles inclusive with ceiling equal to or greater than 200 feet.

NOTE: A percentage frequency of ".0" in these tables represents one or more occurrences amounting to less than ".05" percent.

*Values for means and standard deviations do not include measurements from incomplete months.

SURFACE WINDS

(FROM DAILY OBSERVATIONS)

YEARS

DAILY PEAK GUSTS IN KNOTS

[illegible]

NOTES * (BASED ON LESS THAN FULL MONTHS)

USAF ETAC FORM 0-85-5 (OLA) (BASED ON LESS THAN FULL MONTHS AND +100 KNOTS)

U.S. AIR FORCE CLIMATOLOGY BRANCH
 AFMPC
 WEATHER SERVICE/AFAL

PERCENTAGE FREQUENCY OF WIND
 DIRECTION AND SPEED
 (FROM HOURLY OBSERVATIONS)

SURFACE WINDS

39 STATION PHILIPS-COLLINS/ALPENA MI 73-81 YEARS JAN
 MONTH
ALL WEATHER
 CLASS
0700-0800
 HOURS (L.S.T.)
 CONDITION

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.5	1.2	1.7	1.2								4.8	7.5
NNE	.5	.2	.2									1.0	4.4
NE	.4	.4	.7	.6	.2							2.3	9.4
ENE		.5	.7	.6								1.8	5.8
E		.5	.5									1.0	6.9
ESE	.6	.2	.9	.5								2.2	7.4
SE	.7	1.0	1.7	.6	.1							4.2	7.6
SSE	.7	1.6	1.1	.4	.1							3.9	6.9
S	1.2	2.6	3.1	1.3	.4							8.6	7.9
SSW	.6	1.3	1.5	.5								4.4	6.6
SW	.5	5.1	3.7	.6	.1	.1						10.3	6.5
WSW	1.5	5.3	5.3	.6								12.5	6.6
W	2.2	5.2	7.1	1.5	.5							17.2	7.1
WNW	.7	2.1	5.4	1.8	.1	.1						10.3	8.6
NW	.9	.5	2.3	2.0	.4							6.2	9.5
NNW	.4	.7	.6	.6	.1							2.5	8.3
VARBL													
CALM												6.9	
	11.8	29.5	36.5	13.0	2.1	.2						100.0	7.2

TOTAL NUMBER OF OBSERVATIONS 616

NATIONAL CLIMATOLOGY BRANCH
FETAC
WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

39
STATION

PHILIPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

JAN
MONTH

ALL WEATHER
CLASS

0300-0500
HOURS (L.S.T.)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 53	≥ 56	%	MEAN WIND SPEED
N	.6	1.4	2.4	1.0								5.3	7.7
NNE	.2		.5	.7	.1	.2						1.9	12.7
NE	.2		.5	1.0								1.7	10.2
ENE		.2	.6	.1								1.0	8.1
E	.1	.7	1.1	.2								2.0	7.6
ESE	.1	.2	1.1	.5								2.0	8.8
SE	.4	.9	1.2	.5								3.0	7.2
SSE	.6	1.1	1.2	.4	.1							3.5	6.8
S	1.9	3.7	3.1	1.1	.4							10.2	6.9
SSW	.7	2.9	2.2	.6								6.5	6.7
SW	1.4	4.2	3.2	.9	.1							9.8	6.4
WSW	1.6	6.5	2.2	1.0	.1							11.4	6.1
W	1.9	6.8	5.3	.7	.2							15.0	6.3
WNW	1.2	3.9	3.7	2.6	.4							10.9	8.2
NW	.2	.4	1.1	3.1	.4							5.7	10.9
NNW	.2	.7	.9	1.1								3.0	8.9
VARB													
CALM												7.2	
	11.5	33.0	30.5	15.6	1.9	.2						100.0	6.9

TOTAL NUMBER OF OBSERVATIONS 806

RECEIVED TOLSON MARCH
1960
FAC
LATER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

39
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEAR

JAN
MONTH

ALL WEATHER
CLAS

0600-0800
HOURS (L.S.T.)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 14	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.5	1.7	.7	1.0								3.9	7.0
NNE		.4	1.1	.4	.1		.4					2.3	12.2
NE	.2		.7	.6								1.6	9.7
ENE	.4	.1	.4	.1								1.0	6.0
E	.2	.1	1.1	.9								2.3	9.3
ESE	.1		.5	.9								1.5	11.0
SE	.5	.6	1.6	1.3								4.0	6.3
SSE	.6	1.5	.9	.2								3.2	6.0
S	1.2	2.0	5.7	1.3	.5							9.5	7.6
SSW	1.1	2.1	2.1	.4	.1							6.3	6.8
SW	1.2	4.3	5.3	1.0	.4							10.2	6.7
WSW	1.2	3.7	3.7	1.3	.2	.1						10.2	7.4
W	2.4	6.5	4.6	2.4		.1						16.0	6.7
WNW	.1	2.0	4.0	2.7	.2	.1						9.8	9.1
NW	.2	1.1	2.1	5.1	.2							8.5	10.0
NNW	.2	.6	1.2	.5	.1							2.7	8.5
VARBL													
CALM												6.8	
	10.9	24.0	33.0	16.7	2.0	.2	.4					100.0	7.3

TOTAL NUMBER OF OBSERVATIONS

820

U.S. AIR FORCE
 CLIMATE BRANCH
 AFETAC
 WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

STATION 37 PRELPS-COLLINS/ALPENA MI 73-81 YEAR 1973
 MONTH JAN
 TIME 0900-1100
 CLASS ALL WEATHER
 CONDITION

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.6	1.2	2.1	1.3		.1	.2					5.6	9.1
NNE	.4	.4	.6	.6								2.0	8.2
NE	.1	.1	1.0	.7								2.0	8.2
ENE		.1	.4	.9								1.3	8.1
E	.2	.1	.5	.9	.1							1.8	8.1
ESE	.4	.1	.7	1.3								2.5	8.1
SE	.4	.9	1.2	1.1								3.6	8.1
SSE	.4	1.0	1.5	.5								3.3	8.1
S	1.1	2.0	3.7	2.0								6.7	8.1
SSW	.9	2.0	1.7	1.3		.1						6.8	8.1
SW	.9	3.2	3.8	1.0	.1	.1	.1					9.2	8.1
WSW	.9	2.5	4.7	2.3	.4	.2						10.9	8.1
W	.7	4.8	5.8	1.8	.4							13.5	8.1
WNW	1.0	2.2	5.5	4.0	.1	.2						13.1	9.2
NW	.2	1.7	2.7	3.6	1.1							9.3	10.5
NNW	.1	1.1	1.1	1.2	.1							3.7	9.4
VARBL													
CALM												3.3	
	8.2	23.3	36.9	24.7	2.3	.9	.4					100.0	8.4

TOTAL NUMBER OF OBSERVATIONS 815

U.S. AIR FORCE CLIMATOLOGY BRANCH
AFAC
WEATHER SERVICE/PAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION 59 PHELPS-COLLINS/ALPENA MI 73-81 YEARS JAN
STATION NAME MONTH
ALL WEATHER CLASS 1200-1400
CONDITION HOUR (L.S.T.)

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.5	2.1	2.5	1.8	.2		.1					7.2	8.8
NNE	.6	.6	1.0	1.0								3.2	8.0
NE		.2	1.1	.4								1.7	9.2
ENE	.1	.5	1.2	.4	.2							2.5	9.4
E		.2	.2	.4								.9	10.6
ESE		.4	1.5	1.1	.2							5.2	10.5
SE		.5	.6	1.1								2.2	10.2
SSE	.5	.4	1.5	2.0								4.3	9.3
S	.4	1.6	3.2	3.2	.1							8.5	9.5
SSW	.1	1.4	3.2	.7	.1	.1						5.7	8.6
SW	.5	.6	3.6	2.6	.2							7.5	9.8
WSW		1.6	4.9	2.8	.6							10.0	9.8
W	.4	1.2	5.2	6.4	.4							13.5	10.5
WNW	.5	.9	4.3	7.0	.9							13.5	11.3
NW	.1	.5	3.2	5.9	.7							10.6	11.8
NNW		.4	1.6	2.2	.9		.1					5.2	12.1
VARBL													
CALM												.5	
	1.7	13.1	38.7	38.9	4.7	.1	.2					100.0	10.1

TOTAL NUMBER OF OBSERVATIONS 814

U.S. AIR FORCE
AFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

39 STATION PHELPS-COLLINS/ALPENA MI 73-81 YEARS JAN MONTHS
ALL WEATHER CLASS 1500-1700 HOURS (L.S.T.)
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.1	1.5	3.3	1.7								6.6	8.1
NNE	.2	1.6	.9	.9								3.6	7.5
NE		.7	.2	.6								1.6	8.4
NNE	.1	.2	.6	.7								1.7	9.6
E	.5	.6	.9	.1								2.1	6.2
ESE	.1	.9	1.0	.5	.2							2.7	8.8
SE	.6	1.7	1.2	1.8	.2							5.7	8.7
SSE	.6	1.0	1.2	1.6								4.4	8.3
S	.2	1.6	2.3	2.0								6.2	8.7
SSW	.4	1.5	1.6	1.0								4.4	7.6
SW	.5	2.0	3.3	1.5	.1	.2						7.6	8.8
WSW	.6	1.6	3.7	1.8	.5	.1						8.4	9.4
W	.4	1.7	7.1	6.3	.2							15.7	10.0
WNW	.4	1.8	5.4	5.3	.7							13.7	10.1
NW	.1	1.4	2.7	5.7	.7	.1						10.7	11.3
NNW	.2	.5	1.6	1.5	.2	.4						4.4	11.1
VARB													
CALM												.5	
	5.2	20.3	37.1	33.0	3.1	.9						100.0	9.3

TOTAL NUMBER OF OBSERVATIONS 813

LOCAL CLIMATOLOGY BRANCH
METAC
AIR WEATHER SERVICE/MAL

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

039 STATION PHELPS-COLLINS/ALPENA MI 73-81 YEARS JAN
ALL WEATHER CLASS 1800-2000
MOON (L.A.T.)
CONDITION

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.5	1.5	.9	.5								3.3	6.4
NNE	.4	1.4	.5	.6								2.7	6.6
NE	.2	.5	.4	.6								1.7	7.9
NNE	.4	.7	.5	.2								1.8	6.7
E	.6	.4	.2	.6								1.8	6.9
ESE	.5	1.0	.9	.7	.1							3.2	8.5
SE	.1	1.5	1.1	.5	.7							4.3	9.0
SSE	.7	1.6	1.5	.6								4.4	6.8
S	1.5	3.4	3.4	2.3								12.8	7.4
SSW	1.0	2.0	1.7	.5								5.2	6.4
SW	.5	2.2	1.5	.9		.1						5.2	7.4
WSW	1.6	3.3	4.3	1.1		.5						10.8	7.6
W	1.2	5.4	6.4	3.2	.2							16.4	7.8
WNW	1.5	3.8	3.9	5.2								14.4	8.5
NW	.2	1.6	2.1	2.2	.4	.2						6.7	10.1
NNW	.6	.6	.9	1.3	.1	.2						3.8	9.6
VARBL													
CALM												3.4	
	11.7	31.0	30.1	21.1	1.6	1.1						100.0	7.6

TOTAL NUMBER OF OBSERVATIONS 815

GENERAL CLIMATOLOGY BRANCH
 WFF/PLAC
 ALL WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

139 PHELPS-COLLINS/ALPENA MI 73-81 JAN
 STATION STATION NAME YEARS MONTHS
 ALL WEATHER
 CLASS
 CONDITION
 2100-2300
 HOURS (L.S.T.)

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-14	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	1.0	.9	1.0	.6								3.4	6.7
NNE	.2	.5	.4	.7								1.8	8.8
NE	.4	.4	.4	.2	.1							1.5	7.6
ENE	.1	.6	.6									1.3	6.8
E		.2	.4	.5								1.1	9.7
ESE	.9	.2	.7	1.0								2.8	7.5
SE	.4	1.2	1.0	1.1	.2							3.9	8.8
SSE	.7	.9	1.0	.1	1.0							3.7	9.6
S	1.6	3.4	2.8	.6								8.5	6.2
SSW	1.0	2.6	2.0	1.5	.1							7.1	7.3
SW	1.8	3.2	4.3	1.3	.1	.1						10.9	7.2
WSW	1.2	6.4	3.7	1.0	.1	.1						12.5	6.6
W	1.7	5.2	4.9	1.5	.4							13.6	7.0
WNW	.5	2.8	5.5	3.1	.4							12.3	8.8
NW	.4	.9	2.2	3.2	.2							6.9	10.5
NNW	.5	.7	.6	1.0	.1							2.9	8.6
VARBL													
CALM												5.6	
	12.4	30.1	31.4	17.4	2.8	.2						100.0	7.3

TOTAL NUMBER OF OBSERVATIONS 815

U. S. AIR FORCE
 AL CLIMATOLOGY BRANCH
 AFMPC
 AIR WEATHER SERVICE/MAL

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

STATION 39 STATION NAME PHELPS-COLLINS/ALPENA MI YEARS 75-81 MONTH JAN

ALL WEATHER

CONDITION

ALL

MOON (L.S.T.)

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.6	1.4	1.8	1.2	.0	.0	.0					5.0	8.0
NNE	.5	.6	.6	.6	.0	.0	.0					2.3	8.6
NE	.2	.5	.6	.6	.0							1.8	9.1
NNE	.1	.4	.6	.4	.0							1.6	8.5
E	.2	.3	.6	.4	.0							1.6	8.3
ESE	.3	.4	.9	.8	.1							2.5	8.9
SE	.4	1.1	1.2	1.0	.2							3.9	8.4
SSE	.5	1.1	1.2	.7	.2							3.8	7.7
S	1.2	2.7	3.2	1.7	.2							8.9	7.7
SSW	.7	2.0	2.1	.8	.0	.0						5.7	7.2
SW	1.0	3.1	3.3	1.2	.2	.1	.0					8.9	7.5
WSW	1.0	3.8	4.1	1.5	.4	.1						10.8	7.7
W	1.4	4.7	5.8	3.0	.3							15.1	7.9
WNW	.8	2.3	4.7	4.0	.4	.1						12.2	9.3
NW	.3	1.2	2.4	3.7	.5	.0						8.1	10.7
NNW	.3	.7	1.1	1.2	.2	.1	.0					3.5	9.9
VARB													
CALM												4.3	
	4.4	26.1	34.3	22.8	2.5	.5	.1					100.0	8.0

TOTAL NUMBER OF OBSERVATIONS 6514

CLERICAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAL

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

1-139 STATION PHELPS-COLLINS/ALPENA MI 75-81 YEARS FEB 0000-0200 HOURS (L.S.T.)

ALL WEATHER CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 53	≥ 54	%	MEAN WIND SPEED
N	.7	1.3	1.2	1.6								4.8	8.2
NNE	.1	.9	.5	.7								2.3	7.5
NE	.7	.5	.7	.4								2.3	6.1
ENE		.1	.5	.5								1.2	10.3
E		.3	.9	.4								1.6	8.8
ESE		.5	.5	.7								1.7	9.1
SE	.1	1.5	.8	.5								3.0	7.5
SSE	.4	1.3	1.6	.3								3.6	6.6
S	1.7	3.6	3.5	.8								9.7	6.5
SSW	1.1	2.3	2.6	.5								6.5	6.5
SW	1.7	2.8	2.0	.8								7.4	6.3
WSW	1.7	4.3	3.0	.5	.1							9.7	6.1
W	3.2	3.1	6.2	2.2	.1							19.8	6.5
WNW	1.6	3.5	5.0	1.3	.1							11.6	7.1
NW	1.1	1.2	1.7	.7								4.7	6.9
NNW	1.1	.8	.1	.5								2.6	5.4
VARBL													
CALM												7.7	
	15.3	33.2	30.9	12.5	.4							100.0	6.3

TOTAL NUMBER OF OBSERVATIONS 744

LOCAL CLIMATOLOGY BRANCH
 METAC
 WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
 DIRECTION AND SPEED
 (FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION 39 PHILIPS-COLLINS/ALPENA MI 73-81 YEARS FEB
 DATE 0300-0500
 HOURS (L.S.T.)
 ALL WEATHER
 CLASS
 CONDITION

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-14	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	1.5	1.3	1.3	1.3	.1							5.5	7.3
NNE	.5	.4	.8	.4								2.1	7.7
NE	.4	.4	.5	.3								1.6	6.6
NNE	.1	.1	1.2	.3	.1							1.9	8.6
E			.8	.7								1.5	11.0
ESE	.4	.5	.9	.1								1.7	6.9
SE	.4	.9	1.2	1.2								3.8	8.3
SSE	.7	.7	1.2	.1								2.9	5.8
S	1.2	3.9	4.4	.8								10.3	6.5
SSW	1.2	2.4	2.9	.1								6.7	6.1
SW	.9	2.7	2.8	.3								6.7	6.2
WSW	2.0	2.5	2.5	.5								7.1	6.0
W	5.1	8.0	5.9	.9								20.0	5.7
WNW	1.9	3.4	5.2	1.7								12.2	7.1
NW	1.1	1.5	1.2	1.3	.1							5.2	7.8
NNW	.7	.7	1.6	.4								3.4	7.1
VARB													
CALM												7.4	
	18.2	29.0	39.5	10.6	.4							100.0	6.2

TOTAL NUMBER OF OBSERVATIONS 746

CLIMAT. CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION 39 PHELPS-COLLINS/ALPENA MI 73-81 FEB
STATION NAME YEARS MONTH
ALL WEATHER
CLASS
CONDITION
3600-0800
HOURS (L.S.T.)

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-53	≥54	%	MEAN WIND SPEED
N	1.2	2.0	2.0	.8								6.0	6.9
NNE	.3	1.1	.5	.3								2.1	6.4
NE	.5	.3	.7	.1								1.6	6.4
ENE	.1	.1	.4	.9	.3							1.9	11.6
E		.5	.7	.3	.3							1.5	10.8
ESE	.4	.3	.7	.4	.1							1.9	8.4
SE	.3	.5	1.6	.7								2.9	8.1
SSE	.5	1.1	1.5	.7								3.7	7.6
S	.9	3.9	3.2	.5								8.6	6.6
SSW	1.2	2.4	3.3	.1								7.1	6.4
SW	1.1	3.6	3.1									7.7	6.2
WSW	1.7	3.2	2.1	.9								8.0	6.1
W	3.4	7.3	5.7	1.5								18.4	6.1
WNW	1.7	3.9	3.3	1.5	.1							10.5	6.8
NW	.9	1.5	2.0	2.0								6.4	8.4
NNW	.5	.9	2.0	.5								4.0	7.4
VARBL													
CALM												7.9	
	15.3	32.2	32.6	11.2	.8							100.0	6.3

TOTAL NUMBER OF OBSERVATIONS 151

NATIONAL CLIMATOLOGY BRANCH
WALLAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION

PHELPS-COLLINS/ALPENA MI

73-81

YEARS

FEB

MONTHS

ALL WEATHER

CLASS

0900-1100

HOURLY (L.S.T.)

CONDITION

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.4	1.2	2.3	2.8								7.2	8.9
NNE	.4	1.6	1.7	1.2	.1							5.1	8.2
NE	.4	.5	.7	.9	.3							2.8	9.0
NNE	.4	.4	1.2	1.2								3.2	9.0
E	.1		1.6	.8								2.5	9.8
ESE	.5		.5	.5								1.6	7.8
SE	.5	.4	.8	.4								2.1	6.9
SSE	1.1	.3	1.2	1.6	.1							4.3	8.8
S	.5	2.4	5.9	2.0								10.8	8.3
SSW	.1	1.3	2.4	.4								4.3	7.6
SW	.8	2.1	3.6	.7								7.7	6.8
WSW	.4	2.8	3.1	1.1								7.4	6.4
W	1.6	2.4	4.7	2.4								11.1	7.8
WNW	.3	3.3	4.3	3.7	.5	.1						12.3	9.2
NW	.7	2.0	2.5	2.3	.3	.1						7.9	9.1
NNW	.8	.8	2.1	1.7	.1							5.6	8.9
VARB													
CALM												3.6	
	10.1	22.2	58.6	23.8	1.5	.5						100.0	8.0

TOTAL NUMBER OF OBSERVATIONS

747

U.S. NAVAL CLIMATOLOGY BRANCH
 WASHINGTON, D.C.
 WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
 DIRECTION AND SPEED
 (FROM HOURLY OBSERVATIONS)

SURFACE WINDS

59
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

FEB
MONTH

ALL WEATHER
CLASS

1200-1400
HOURS (L.S.T.)

CONDITION

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.3	1.6	4.7	4.3	.1	.1						11.1	4.7
NNE	.3	.7	2.3	.9		.1						4.3	8.2
NE	.1	.7	1.2	.5								2.5	8.2
ENE	.3		1.2	.9								2.4	9.9
E	.1	.3	1.5	1.2								3.1	9.9
ESE		.4	2.1	1.1								3.5	4.1
SE		.5	.9	1.5								2.9	9.2
SSE	.4	.9	1.5	1.7	.1							4.7	9.3
S	.1	2.4	4.1	2.4	.3							9.4	8.9
SSW	.1	.8	1.9	1.1								3.9	8.3
SW	.3	1.5	3.3	1.7								6.8	8.4
WSW	.1	2.1	3.6	1.6								7.5	8.6
W	.1	1.5	3.3	3.9	.3							4.1	10.3
WNW	.1	1.6	2.8	5.5	.8							10.8	11.0
NW	.7	1.1	3.3	4.4	.7	.3						10.4	11.2
NNW	.4	1.5	2.3	2.1	.3	.1						6.7	9.6
VARBL													
CALM												.8	
	3.5	17.5	40.1	34.9	2.5	.1						100.0	7.6

TOTAL NUMBER OF OBSERVATIONS

742

CLIMATE CLIMATOLOGY BRANCH
DETAC
WEATHER SERVICE/HAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

39 STATION PHELPS-COLLINS/ALPENA MI 73-81 YEARS FEB 1973-1974
STATION NAME CLASS ALL WEATHER
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.1	2.0	4.5	3.9								10.5	4.5
NNE	.3	1.1	2.2	.8								4.3	7.9
NE		1.5	1.1	.7								3.3	7.8
ENE	.3	.4	.1	.3								1.1	7.1
E	.1	1.1	2.4	1.9								5.6	9.1
ESE		.8	3.9	1.5								6.2	9.2
SE	.1	.5	1.9	1.9								4.5	9.7
SSE		1.1	.9	.5	.3							3.5	9.1
S	.1	1.5	3.8	2.6		.1						5.1	9.3
SSW	.4	.4	1.5	1.9								4.2	9.4
SW	.1	.1	1.6	1.2								3.7	9.3
WSW	.1	1.4	3.9	1.5	.1							7.0	8.8
W		.5	2.4	3.7	.5							7.2	11.1
WNW	.5	1.6	4.7	5.3	.5							12.7	10.1
NW	.1	.8	4.1	5.4	.5	.1						11.1	11.2
NNW	.7	1.6	2.8	1.9								7.0	8.6
VARBL													
CALM												.5	
	2.1	17.1	42.0	35.0	2.0	.5						100.0	9.5

TOTAL NUMBER OF OBSERVATIONS 738

AL CLIMATOLOGY BRANCH
AFAC
WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

STATION	STATION NAME	YEARS	PERIOD
34	PHILIPS-COLLINS/ALPENA MI	73-81	1800-2000
ALL WEATHER			NOV 1980 (L.A.T.)
CLASS			
CONDITION			

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.8	1.6	1.8	.7	.3							6.1	6.5
NNE	.7	1.2	.7	.1								2.7	5.4
NE	.4	.7	.7	.1								1.9	6.1
ENE		.7	.3	.5								1.5	8.1
E	.4	1.2	1.5	.5								3.6	7.3
ESE	.5	.9	1.9	.7								4.5	7.4
SE	.5	1.8	2.2	1.1								5.5	7.6
SSE	.7	1.2	1.8	.3								3.9	6.5
S	.4	1.3	5.8	2.8								10.4	8.9
SSW	.1	1.2	1.2	1.3								3.9	8.3
SW	.1	1.2	1.5	.5								3.4	7.7
WSW	.1	1.5	1.9	.8	.1							4.9	7.5
W	.8	3.4	3.8	2.4	.1							10.9	8.0
WNW	1.8	3.4	7.3	4.0	.4							16.9	8.4
NW	.8	1.8	3.5	1.6	.1							7.8	8.4
NNW	1.5	1.3	2.6	.9	.1							6.5	7.7
VARBL													
CALM												6.1	
	11.1	24.4	38.2	18.6	1.2							100.0	7.3

TOTAL NUMBER OF OBSERVATIONS 741

ALCIS METEOROLOGICAL
 SERVICE/NAO

PERCENTAGE FREQUENCY OF WIND
 DIRECTION AND SPEED
 (FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION PHILIPS-COLLINS/ALPENA MI YEARS 75-81 FEM 21-0-2300
 STATION NAME CLARK MONTH NOV
 ALL WEATHER CLARK
 CONDITION CLARK

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 53	≥ 54	%	MEAN WIND SPEED
N	1.2	1.1	1.1	1.3								4.7	7.5
NNE	.5	.5	.5	.5	.1							2.3	7.6
NE	.5	.7	.4	.7								2.6	7.7
ENE	.4	.5	.3	.3								1.5	6.4
E	.3	.4	.5									1.2	5.4
ESE		.4	1.5	.7								2.5	9.0
SE	.4	1.2	1.5	.5								3.6	7.1
SSE	.1	1.7	1.3	.4								4.4	5.2
S	1.3	2.4	3.1	1.1								7.3	6.7
SSW	.1	.4	2.4	1.5	.1							3.4	7.6
SW	1.2	1.7	1.7	1.1								5.8	7.0
WSW	.7	3.4	1.6	.1								5.8	5.7
W	2.7	6.3	6.7	2.7	.1							16.4	7.1
WNW	.7	3.6	7.5	2.3								13.5	7.9
NW	1.1	1.7	2.8	.9								6.6	7.2
NNW	.4	.1	1.1	.1	.1							2.9	8.1
VAERL													
CALM												8.0	
	14.7	30.7	33.2	14.7	.5							100.0	6.6

TOTAL NUMBER OF OBSERVATIONS 746

JOINT CLIMATOLOGY BRANCH
 AFETAC
 WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

59	HELPS-COLLINS/ALPENA MI	73-81	ALL
STATION	STATION NAME	YEARS	MONTH
ALL WEATHER			ALL
CLASS			MOON (L.B.T.)
CONDITION			

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.2	1.5	2.3	2.1	.1	.0						7.0	6.4
NNE	.4	.9	1.2	.6	.0	.0						3.2	7.7
NE	.4	.7	.7	.5	.0							2.2	7.4
ENE	.2	.3	.7	.6	.1							1.8	9.1
E	.1	.4	1.2	.7	.0							2.6	9.0
ESE	.2	.5	1.5	.7	.0							2.9	8.5
SE	.3	.9	1.3	1.0								3.5	8.2
SSE	.6	1.0	1.4	.7	.1							3.8	7.5
S	.4	2.7	4.2	1.6	.0	.0						9.4	7.7
SSW	.6	1.6	2.3	.9	.0							5.6	7.4
SW	.6	2.1	2.5	.8								6.2	7.0
WSW	1.0	2.6	2.7	.9	.1							7.2	6.9
W	2.2	4.8	4.8	2.4	.2							14.4	7.2
WNW	1.1	3.0	4.9	3.2	.3	.0						12.6	8.4
NW	.9	1.4	2.6	2.3	.2	.1						7.5	9.2
NNW	.6	1.0	1.8	1.1	.1	.0						4.8	8.1
VARBL													
CALM												5.2	
	11.2	25.9	36.3	20.1	1.2	.2						100.0	7.5

TOTAL NUMBER OF OBSERVATIONS 5963

U.S. AIR FORCE
 CLIMATE BRANCH
 WASHINGTON, D.C.
 WEATHER SERVICE/MAL

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

STATION 3900 PHELPS-COLLINS/ALPENA MI YEARS 73-81 MAX MONTH 0000-0200
 STATION NAME ALL WEATHER CLASS 0000-0200
 CONDITION 0000-0200

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.0	1.8	1.5	2.3								6.5	8.7
NNE	.5	.4	.7	.1								1.7	6.1
NE	.4	.5	.2	.4	.1							1.6	7.5
ENE	.5	.5	.2	.5	.2							2.0	4.2
E	.7	1.3	1.1	.7	.1							4.0	7.3
ESE	.6	1.8	1.6	2.4								6.5	8.7
SE	1.1	2.4	2.6	1.5								7.6	7.3
SSE	1.2	2.3	1.1	.2								4.9	5.3
S	1.3	3.1	2.7	.6								7.7	6.2
SSW	.5	2.2	2.3	.2								5.3	6.7
SW	1.1	2.1	2.1	.4								5.5	5.9
WSW	1.0	2.3	1.8	.9								6.5	6.5
W	1.7	5.6	5.8	.9								14.0	6.6
WNW	1.1	3.1	5.0	2.9								12.1	8.1
NW	1.3	1.8	1.3	.7	.2							5.5	7.2
NNW		.4	1.1	.5	.1							2.0	4.6
YARBL													
CALM												6.7	
	14.0	32.1	31.1	15.3	.9							100.0	6.7

TOTAL NUMBER OF OBSERVATIONS 817

AL CLIMATOLOGY BRANCH
 USAFETAC
 WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

STATION 390 STATION NAME PHELPS-COLLINS/ALPENA MI YEARS 73-81
 CLASS ALL WEATHER
 CONDITION
 MAX MONTHS 0300-0500
 HOURS (L.G.T.)

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.7	2.1	1.6	1.6	.1							6.1	7.9
NNE	.6	.6	1.1	.1	.1							2.5	6.9
NE	.7	.2	.6	.4	.2							2.2	8.2
ENE	.9	.6	1.0	.2	.2							2.9	7.0
E	.4	.7	1.2	1.7	.1							4.2	9.9
ESE	.7	2.0	2.0	1.1								5.7	7.4
SE	.6	2.7	1.3	1.3	.1							6.1	7.5
SSE	1.2	2.1	2.0	.2								5.5	5.8
S	1.2	2.9	2.4	.4								7.0	6.1
SSW	.7	1.7	1.6									4.0	6.1
SW	.9	2.2	1.2	.2								4.5	5.8
WSW	1.6	2.7	2.3	.7								7.3	6.0
W	1.3	6.3	5.1	.9								13.7	6.6
WNW	1.0	3.3	4.0	2.2	.1							11.1	7.7
NW	1.0	1.0	1.3	1.7								5.0	8.3
NNW	.6	.9	2.1	1.2								4.8	8.5
VARB													
CALM												7.3	
	14.2	32.5	30.9	14.0	1.1							100.0	6.6

TOTAL NUMBER OF OBSERVATIONS 819

ARMED CLIMATOLOGY BRANCH
AFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

1939 STATION PHELPS-COLLINS/ALPENA MI 73-81 YEARS MAR MONTH
ALL WEATHER CLASS 0600-0600 HOURS (L.S.T.)
CONDITION

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.9	1.5	1.2	1.1	.2							4.9	8.0
NNE	.1	.5	.7	.1		.2						1.7	9.4
NE	.5	.5	.7	.7								2.6	7.4
ENE	.6	.5	1.2	.6	.1							3.0	8.2
E	.5	1.2	1.0	1.7	.2	.1						4.7	9.9
ESE	.4	1.5	1.5	1.2	.1	.1						4.7	8.6
SE	.7	3.0	1.2	1.8								6.8	7.7
SSE	.7	2.6	.9	.6	.1							4.9	6.5
S	.6	2.8	2.7	1.0								7.1	7.1
SSW	.4	3.3	1.2									4.9	5.8
SW	1.3	1.7	2.1	.1								5.2	5.9
WSW	1.0	2.7	1.8	.7								6.2	6.1
W	1.5	4.9	4.5	1.1								11.8	6.6
WNW	1.5	2.8	3.2	3.3	.1							10.8	8.3
NW	1.1	3.2	2.4	2.1	.4							9.1	8.1
NNW	1.0	.5	1.8	.9	.1							4.3	8.2
VARBL													
CALM												7.3	
	12.7	33.0	28.1	17.0	1.5	.5						100.0	6.9

TOTAL NUMBER OF OBSERVATIONS 822

U.S. NAVAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

139: STATION PHELPS-COLLINS/ALPENA MI 73-81 YEARS MAP
STATION NAME CLASS 5900-1100
CONDITION

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-53	≥54	%	MEAN WIND SPEED
N	.4	1.5	3.8	1.5	.6							1.7	9.3
NNE	.5	.9	1.6	1.3	.2							4.5	8.9
NE	1.0	1.0	.7	1.2	.1							4.3	7.8
ENE		.1	.7	1.1								2.0	10.6
E	.2	.2	2.3	1.7	.1	.1						4.8	10.5
ESE	.2	1.1	2.2	2.6	.5							6.6	10.6
SE	.1	1.3	2.2	2.2	.2							6.1	9.3
SSE	.6	1.6	1.2	1.8	.2							5.5	8.7
S	.7	2.2	2.3	2.0	.1							6.9	8.9
SSW	.2	.2	2.9	1.0								4.4	8.6
SW	.5	.9	3.2	1.0	.1							5.6	8.4
WSW	.5	1.2	2.7	2.0	.2							6.6	8.8
W	.4	1.3	3.9	3.4								9.1	9.3
WNW	.2	1.2	2.9	3.8	.7	.2						9.2	10.6
NW	.4	.7	2.4	4.2	.6							8.3	11.2
NNW	.4	.5	2.3	2.8	.4	.2						6.6	11.2
VARB.													
CALM												2.1	
	5.4	16.0	37.6	33.5	4.3	.6						100.0	9.4

TOTAL NUMBER OF OBSERVATIONS 817

U.S. CLIMATOLOGY BRANCH

U.S. AIR FORCE SERVICE/NAF

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION 32 PHILIPS-COLLINS/ALPENA MI 73-91 YEARS 1200-1400
MONTHS 1200-1400
CLASS ALL WEATHER
CONDITION

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.5	1.3	4.3	4.0	.4							12.5	9.9
NNE	.7	1.3	1.6	1.3								4.5	5.3
NE	.2	.7	.6	1.2								2.3	4.2
ENE		.2	.7	2.2								3.2	11.5
E	.4	.7	3.6	1.8	.1							6.6	9.5
ESE	.4	1.1	3.9	2.8	.2							6.5	11.1
SE	.2	.5	2.2	1.8								4.4	9.0
SSE	.2	.4	1.3	.6	.5							3.1	10.2
S	.1	.7	3.7	3.2								7.7	10.1
SSW		.4	1.3	1.2	.2							3.2	10.7
SW	.1	1.2	2.2	2.0	.1	.1						5.3	9.2
WSW	.1	.7	3.4	3.1	.4							7.7	10.5
W		1.1	3.3	4.0	.2							8.7	10.4
WNW	.1	.5	1.5	3.8	.7	.2						6.9	12.7
NW		1.0	2.3	4.2	1.5	.1						9.1	12.4
NNW		.7	1.6	3.6	.4							6.2	11.5
VARBL													
CALM												.7	
	2.7	12.7	37.6	40.9	4.8	.5						100.0	10.4

TOTAL NUMBER OF OBSERVATIONS 816

GLOBAL CLIMATOLOGY BRANCH
 AFSS/IAU
 AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
 DIRECTION AND SPEED
 (FROM HOURLY OBSERVATIONS)

SURFACE WINDS

776397 STATION PHELPS-COLLINS/ALPENA MI 77-81 YEAR MAR MONTH
 ALL WEATHER CLASS 1500-1700 HOUR (L.S.T.)
 CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.2	.5	3.2	3.2	.4							7.5	10.2
NNE	.4	.9	1.7	1.0								3.4	8.1
NE	.1	.5	.9	1.0								2.4	9.4
ENE	.4	.6	1.3	.7								3.1	8.3
E	.1	1.7	3.4	2.4								7.7	9.1
ESE	.1	1.1	7.2	4.2	.2							12.8	9.6
SE		1.5	3.4	2.3	.1							7.5	9.7
SSE	.1	.5	1.1	.9								2.6	9.4
S	.1	.5	1.7	2.2	.1							4.6	10.6
SSW		.4	1.6	1.2	.4							3.5	10.8
SW	.2	.7	2.1	1.5	.1							4.6	9.2
WSW	.2	.7	2.2	3.1	.1							6.4	10.4
W	.2	.5	3.5	3.9	.7							8.9	11.1
WNW	.2	.5	1.8	4.5	1.0	.1						8.2	12.5
NW	.1	.7	2.2	3.5	1.2	.1						7.9	12.3
NNW	.1	.5	2.0	5.5	.2							8.1	11.9
VARBL													
CALM												.4	
	2.8	11.7	39.4	40.8	4.6	.2						100.0	10.3

TOTAL NUMBER OF OBSERVATIONS 818

FEDERAL CLIMATOLOGY BRANCH
 WFO
 WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
 DIRECTION AND SPEED
 (FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION 34 PHELPS-COLLINS/ALPENA MI 73-81 YEARS MAP
 STATION NAME ALL WEATHER MONTH 1800-2000
 CLASS SOUND (L.S.V.)
 CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 53	≥ 54	%	MEAN WIND SPEED
N	.7	2.0	3.1	.7	.4							6.4	8.0
NNE	.4	1.5	.6	.2								2.6	6.1
NE	.9	.7	1.0									2.6	5.8
ENE	.4	.9	1.3	.6	.2							3.4	8.3
E	.5	1.5	2.0	1.3	.2							5.5	8.5
ESE	.9	4.4	4.0	2.7								12.0	7.8
SE	.6	2.8	4.9	1.5	.1							9.9	1.8
SSE	.7	1.5	2.1	1.0								5.3	7.3
S	.4	1.1	2.0	1.1	.1							4.6	8.5
SSW	.4	1.1	.9	1.2								3.5	8.3
SW		.9	1.0	1.2	.1							3.2	9.8
WSW	.1	2.0	2.1	.9								5.0	7.7
W	.6	2.3	4.5	2.1	.4							9.4	8.6
WNW	.9	1.2	3.5	3.5	1.0							10.1	10.2
NW	.5	1.3	4.2	2.9	.2							9.2	9.6
NNW	.1	1.5	1.1	1.1	.4							4.3	9.0
VARBL													
CALM												2.6	
	7.9	26.5	37.7	22.1	3.2							100.0	8.2

TOTAL NUMBER OF OBSERVATIONS 818

NATIONAL CLIMATOLOGY BRANCH
AFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION 439 STATION NAME PHELPS-COLLINS/ALPENA MI YEARS 73-81 MAC 4100-2700
 CLASS ALL WEATHER
 CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.4	1.3	1.1	1.1	.5							4.2	2.5
NNE	.6	1.2	.4									2.2	4.2
NE	.2	1.2	.2	.2								1.9	5.7
ENE	.8	.2	.7	.4	.1							2.3	7.1
E	.4	1.0	1.3	1.1	.2							4.6	7.1
ESE	.2	1.7	2.7	1.0	.1							6.3	7.2
SE	1.2	3.8	2.9	1.8	.1							4.8	1.5
SSE	1.7	3.2	1.5	.5								6.5	5.6
S	1.5	2.3	3.2	1.0								7.2	5.6
SSW	.7	1.6	1.3	.2								3.9	6.1
SW	1.1	1.1	2.2	.5								4.2	6.7
WSW	1.1	2.2	2.1	1.1								5.4	1.2
W	1.3	4.6	2.2	1.0								4.1	6.4
WNW	.5	3.2	5.1	4.1	.4							13.2	4.1
NW	1.0	1.8	2.1	1.9	.4							7.2	8.6
NNW	1.0	1.2	1.0	.7								3.4	6.0
VARBL													
CALM												5.5	
	14.3	32.0	29.8	16.6	1.8							100.0	6.7

TOTAL NUMBER OF OBSERVATIONS 825

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

STATION

THLEP-ELLINS/ALPES

STATION NAME

1

73-81

YEARS

468

HOURS

ALL WEATHER

CLASS

ALL

HOURS (L.S.T.)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.6	1.6	2.5	1.9	.3							6.9	9.0
NNE	.4	.4	1.1	.2	.0	.0						3.0	1.6
NE	.5	.7	.6	.6	.1							2.6	7.7
ENE	.4	.5	.9	.8	.1							2.7	8.7
E	.4	1.1	2.1	1.6	.2	.2						5.2	9.2
ESE	.5	1.8	3.1	2.2	.2	.2						7.9	8.8
SE	.5	2.3	2.6	1.8	.1							7.3	8.2
SSE	.5	1.8	1.9	.7	.1							4.3	7.6
S	.7	2.1	2.6	1.9	.0							6.7	7.9
SSW	.9	1.4	1.6	.6	.1							4.1	7.7
SW	.7	1.3	2.0	.9	.1	.1						4.7	7.6
WSW	.7	1.7	2.2	1.2	.1							6.3	1.9
W	.2	.3	.4	2.2	.2							1.6	7.9
WNW	.7	2.1	3.8	3.5	.5	.1						12.2	9.6
NW	.7	1.3	2.3	2.7	.6	.2						7.7	9.9
NNW	.4	.5	1.6	2.0	.2	.2						5.6	10.1
VARIABLE													
CALM												4.1	
	4.1	2.6	3.1	2.5	2.8	.2						100.0	8.2

TOTAL NUMBER OF OBSERVATIONS

6552

CLIMATE CLIMATOLOGY BRANCH
NAFAC
NAVY WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

1739. PHELPS-COLLINS/ALPENA MI 75-81
STATION MONTH YEARS
ALL WEATHER
CLASS
CONDITION
0000-0200
HOURS (L.S.T.)

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	1.4	1.3	2.2	1.9	.3							7.0	8.3
NNE	.9	1.5	1.5	.5								4.5	6.5
NE	.6	.6	2.0	.4	.1							3.8	7.9
ENE	.5	.3	.9	.6	.3	.1						2.7	9.4
E	1.0	1.0	1.3	.4	.3							4.0	7.3
ESE	.8	.6	1.1	.9								3.4	7.9
SE	.9	1.5	1.9	.9	.1							5.4	7.2
SSE	1.5	1.4	.5		.1							3.3	5.1
S	1.5	1.5	1.4	.8								5.0	6.7
SSW	.9	2.0	1.1	.6								4.7	6.3
SW	1.4	1.5	.9	.5								4.3	5.5
WSW	.4	1.9	1.3	.1								3.7	6.3
W	2.0	7.4	3.1	1.0		.1						13.7	6.0
WNW	1.5	4.3	4.1	2.3	.1							12.4	7.4
NW	1.0	1.7	3.3	.6	.3							5.9	7.9
NNW	.5	1.4	1.7	1.5	.3							5.4	8.7
VARBL													
CALM												9.8	
	15.5	30.1	28.4	13.2	1.8	.3						100.0	6.4

TOTAL NUMBER OF OBSERVATIONS 703

41 CLIMATOLOGY BRANCH
 AFMTC
 AIR FORCE SERVICE/MAL

PERCENTAGE FREQUENCY OF WIND
 DIRECTION AND SPEED
 (FROM HOURLY OBSERVATIONS)

SURFACE WINDS

39 STATION NAME HELMS-COLLINS/ALPENA MI 73-81 YEARS MONTH NORTH
 ALL WEATHER CLASS
 CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.3	1.5	2.3	2.2								7.2	6.1
NNE	1.4	.8	2.3	1.1	.1							5.7	7.0
NE	1.0	.6	1.5	.8	.1							4.1	7.0
ENE	.5	.5	1.0	.5	.1							2.7	6.1
E	.5	1.3	1.5	.8	.3	.1						4.4	6.7
ESE	.3	1.4	1.6	1.4								5.2	7.3
SE	1.1	1.4	.8	.5								3.2	5.2
SSE	.5	1.0	.8	.1	.1							2.5	6.4
S	1.6	2.2	2.0	.3								6.1	5.5
SSW	.6	1.5	1.6									3.8	6.0
SW	.6	1.4	.6	.3								3.0	5.0
WSW	.8	1.0	1.5	.4		.1						4.8	6.3
W	2.5	1.5	3.5	1.4	.1							12.1	6.1
WNW	2.4	4.2	4.6	.8	.5	.4						12.9	7.2
NW	.8	1.1	1.6	.9								4.4	7.6
NNW	.5	.5	1.0	1.5	.4							3.7	10.1
VARBL													
CALM												10.9	
	17.1	24.6	28.4	12.5	1.8	.6						100.0	6.5

TOTAL NUMBER OF OBSERVATIONS 724

LOCAL CLIMATOLOGY BRANCH
AFETAC
WEATHER SERVICE/MAL

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

STATION 59 PHELPS-COLLINS/ALPENA MI 73-81 APR
STATION NAME YEARS MONTH
ALL WEATHER 0600-0800
CLASS HOURS (L.S.T.)
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.2	.8	2.3	2.4	.4							7.5	9.1
NNE	.3	1.0	1.8	1.1	.3							4.4	9.0
NE	.4	.5	1.6	.9		.1						3.5	9.2
ENE	.3	.4	1.5	.9	.1							3.1	9.0
E	.3	1.4	2.0	1.8	.3							5.6	9.2
ESE	.4	1.0	3.0	1.5	.1							6.7	8.7
SE	1.1	2.5	1.8	.9								6.3	6.5
SSE	.5	1.1	.6	.3								2.6	5.7
S	.7	2.1	2.1	.3								5.3	6.6
SSW	.6	1.0	1.4	.5								3.5	6.7
SW	.2	2.1	2.1	.4								5.4	6.0
WSW	.8	1.8	1.3	.6								4.4	6.9
W	1.4	5.6	3.6	1.1	.1	.5						12.5	6.9
WNW	1.5	3.3	3.0	1.5	.1	.1						9.5	7.5
NW	.4	2.1	3.4	1.8	.8							8.4	9.0
NNW	.8	1.5	1.6	1.9								5.8	8.4
VARBL													
CALM												6.6	
	11.7	28.1	33.1	17.7	2.1	.5						100.0	7.3

TOTAL NUMBER OF OBSERVATIONS 705

U.S. AIR FORCE
METEOROLOGICAL SERVICE/MAI

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

STATION PHILIPS-COLLINS/ALPENA MI YEARS 75-81 MONTH APR

CLASS ALL WEATHER HOURS (L.S.T.) 0900-1100

CONDITION _____

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.3	3.2	2.9	4.9	.3	.1						11.6	2.6
NNE	.1	1.9	1.6	1.6	.3							4.7	2.6
NE	.1	1.3	2.0	1.4	.1							4.9	2.6
ENE	.4	.9	1.2	1.6	.1							4.3	2.4
E	.1	.6	2.8	2.0	.8							6.3	12.8
ESE	.4	1.3	2.9	3.2	.8							8.5	10.6
SE	.3	1.1	2.0	2.9	.1							6.4	10.1
SSE	.3	.5	.8	.5								1.4	0.7
S		.4	1.5	1.8								3.1	10.1
SSW	.3	1.3	1.9	.6	.1							4.2	7.5
SW	.1	1.1	2.4	1.8	.1							5.6	9.2
WSW	.3	.9	2.4	2.1	.3							2.9	10.2
W	.4	1.5	3.8	2.4	.1							8.0	4.5
WNW	.1	1.1	3.2	2.3	.5	.3						7.5	10.7
NW	.1	1.6	3.0	4.0	.8	.3						9.9	10.5
NNW	.1	.6	1.4	3.3	.6							6.1	11.6
VARBL													
CALM												1.1	
	5.3	14.2	55.7	36.3	4.9	.6						100.0	4.8

TOTAL NUMBER OF OBSERVATIONS 791

CLIMATE CLIMATOLOGY BRANCH
USAFETAC
WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

39
STATION

PHILIPS-COLLINS/ALPENA MI
STATION NAME

75-81
YEARS

API

ALL WEATHER
CLASS

1200-1400
HOURS (L.S.T.)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.1	.5	4.4	4.8	.1							10.3	10.4
NNE	.3	1.1	2.3	1.4								5.1	8.3
NE		.6	2.4	1.1								4.2	9.5
ENE	.1	.5	1.9	1.1	.1							3.9	9.4
E	.1	1.6	4.1	7.3	.6	.1						9.9	10.2
ESE	.3	.6	4.8	4.9	.5							11.1	10.7
SE	.1	.5	1.9	4.2	.1							6.5	10.9
SSE	.1	.3	.6	.4								1.4	5.5
S		.2	.6	1.6								3.0	10.3
SSW		.1	.8	1.8	.1	.1						2.9	12.5
SW		.5	1.4	1.8	.1	.1						3.9	11.3
WSW		.6	2.5	2.3	.1							5.6	10.5
W	.1	.4	3.0	3.5								7.1	10.4
WNW		.5	3.2	3.5	1.4	.3						8.9	12.1
NW	.1	.4	2.3	3.8	.8	.3						7.6	11.0
NNW		.6	2.7	4.6	.6	.1						8.6	11.6
VARBL													
CALM													
	1.4	9.9	38.9	44.2	4.7	1.0						100.0	10.7

TOTAL NUMBER OF OBSERVATIONS

790

U.S. AIR FORCE CLIMATOLOGY BRANCH
 AFMPC
 AIR FORCE PATROL SERVICE/440

PERCENTAGE FREQUENCY OF WIND
 DIRECTION AND SPEED
 (FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION 39 MILLIS-COLLINS/ALPENA MI 73-81 APR
 STATION NAME YEARS MONTH
ALL WEATHER
 CLASS
1968-1969
 PERIOD (L.T.V.)
 CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 53	≥ 56	%	MEAN WIND SPEED
N		.2	5.3	6.1	.3							12.4	14.9
NNE	.1	.4	3.4	1.5								5.4	9.3
NE	.4	1.0	2.2	1.3								4.8	8.3
ENE	.1	.4	2.5	.6		.1						3.8	9.4
E	.1	.4	4.3	4.7	.5	.1						10.5	10.8
ESE		1.3	7.3	5.7	.4							14.7	10.3
SE		.5	2.5	3.0	.1							6.2	10.6
SSE		.1	.9	.3								1.5	9.2
S	.1		.3	1.5								1.9	11.5
SSW		.3	.5	1.3								2.0	10.6
SW		.1	.9	1.9	.1	.3						3.3	12.9
WSW		.8	1.8	2.0	.1							4.7	10.2
W	.1	.5	1.6	1.6								3.9	9.8
WNW		.5	1.6	2.2	.9	.3						8.5	12.6
NW		.3	2.4	3.9	.4	.3						7.6	12.6
NNW	.1	.3	2.2	5.9	.5	.3						9.2	12.2
VARBL													
CALM												.1	
	1.1	7.8	39.7	46.6	3.3	1.3						100.0	10.8

TOTAL NUMBER OF OBSERVATIONS 790

NATIONAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

59
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

APR
MONTH

ALL WEATHER
CLASS

1800-2000
HOURS (L.S.T.)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 53	≥ 54	%	MEAN WIND SPEED
N	.4	2.1	3.2	3.2	.3	.1						9.2	9.3
NNE	.4	1.9	2.5	.8								5.6	7.3
NE	.9	1.5	1.5	.3	.1							4.3	6.4
ENE	.1	1.6	1.9	.6	.1	.1						4.7	7.9
E	.5	2.3	2.8	2.1	.1							7.8	8.4
ESE	.4	4.3	5.3	1.6	.1	.1						11.9	7.9
SE	1.7	3.4	2.7	.6								7.7	6.6
SSE	.5	1.4	.5	.5								2.9	6.4
S	.6	.9	1.6	.5								3.7	7.2
SSW		.8	1.0	.6								2.4	3.3
SW	.1	.6	.3	1.4	.1	.1						2.7	10.1
WSW	.3	.8	.9	.9	.1	.1						3.0	9.4
W	.5	.6	1.9	.5	.5							4.0	9.2
WNW	.3	1.4	3.7	3.8	.6	.1						10.2	10.6
NW	.4	1.3	2.7	3.8	.5	.1						8.7	10.5
NNW	.5	1.0	3.3	3.5	.1	.3						8.7	9.9
VARBL													
CALM												2.5	
	6.9	26.3	35.6	24.7	2.8	1.1						100.0	8.5

TOTAL NUMBER OF OBSERVATIONS 792

NATIONAL CLIMATOLOGY BRANCH
 SAFETY
 WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
 DIRECTION AND SPEED
 (FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION 39 STATION NAME PHILIPS-COLLINS/ALPENA MI YEARS 73-81 APP MONTHS 2100-2300
 CLASS ALL WEATHER
 CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.4	2.1	2.9	1.5	.3							1.6	8.1
NNE	.9	1.3	1.6	.8								4.5	7.1
NE	.9	1.1	.6	.3								2.8	5.3
ENE	.3	.4	.8	.4	.1	.3	.1					2.3	11.5
E	.3	.9	.8	1.4								3.3	9.2
ESE	1.3	1.4	1.5	.9								3.3	6.5
SE	1.6	2.4	1.5	.6	.1							3.3	6.0
SSE	1.6	3.7	.4	.1								3.2	4.7
S	1.9	2.4	1.5	.4								6.2	5.5
SSW	.6	1.0	1.0	.3								2.9	6.0
SW	1.4	1.1	1.8	.3								4.5	5.9
WSW	1.1	1.5	.9	.6	.1							4.3	6.2
W	.3	2.4	2.6	1.1								6.9	7.3
WNW	1.0	4.2	4.0	3.3	.5							13.0	8.4
NW	.5	1.9	3.4	2.8	.3							4.1	8.8
NNW	1.1	1.6	2.0	1.3	.1							6.2	7.6
VARBL													
CALM												9.6	
	16.1	29.2	27.3	15.9	1.5	.3	.1					100.0	6.5

TOTAL NUMBER OF OBSERVATIONS 194

NAVAL CLIMATOLOGY BRANCH
 AFETAC
 AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

STATION 0039 PHELPS-COLLINS/ALPENA MI 73-81 YEARS APU
STATION NAME CLASS GROUPS
 ALL WEATHER
CONDITION
 ALL
HOUSE (L.S.V.)

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.7	1.5	3.2	3.4	.2	.0						4.0	4.4
NNE	.5	1.1	2.1	1.1	.1							5.0	8.2
NE	.5	.9	1.7	.8	.1	.0						4.0	8.0
ENE	.3	.5	1.4	.8	.1	.1	.0					3.4	9.1
E	.4	1.2	2.4	2.1	.3	.0						6.5	9.6
ESE	.5	1.5	3.5	2.5	.2	.0						8.3	9.2
SE	.8	1.7	1.9	1.7	.1							5.1	8.0
SSE	.6	1.1	.6	.2	.0							2.5	6.0
S	.8	1.3	1.4	.9								4.3	7.3
SSW	.4	1.0	1.2	.7	.0	.0						3.3	7.8
SW	.6	1.1	1.3	1.0	.1	.1						4.1	8.2
WSW	.4	1.3	1.6	1.1	.1	.0						4.6	8.4
W	1.0	3.2	2.9	1.6	.1	.0						8.9	7.5
WNW	.9	2.5	3.4	2.8	.6	.2						10.3	9.3
NW	.4	1.3	2.8	2.7	.5	.1						7.8	10.0
NNW	.5	.9	2.0	2.9	.3	.1						6.7	10.2
VARBL													
CALM												5.1	
	9.3	22.3	33.4	26.4	2.9	.7	.7					100.0	8.3

TOTAL NUMBER OF OBSERVATIONS 6327

U.S. NAVAL CLIMATOLOGY BRANCH
 USFETAC
 AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
 DIRECTION AND SPEED
 (FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION 39 PHILIPS-COLLINS/ALPENA MI 73-81 YEARS MAY
 STATION NAME ALL WEATHER 0000-0200
 CLASS BOUSS (L.S.T.)
 CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.6	.7	1.7	.9								4.0	7.9
NNE	.2	1.1	.6	.5								3.1	6.0
NE	.4	1.0	.6	.1								2.1	5.5
ENE	.4	.4	.4	.1	.1							1.4	6.7
E	.4	.7	.9	.2	.1							2.8	6.1
ESE	1.0	2.2	1.9	.2								5.3	6.0
SE	1.0	2.0	.6	.2								3.9	5.2
SSE	2.3	2.1	.7	.2								5.4	4.5
S	4.1	2.5	2.5	.1								9.1	4.9
SSW	1.1	.7	.7	.7								3.5	6.4
SW	1.7	1.2	.4	.5								3.8	5.0
WSW	2.5	1.7	.5	.1								4.5	4.1
W	3.5	6.8	3.0	.6								13.8	5.3
WNW	2.3	5.6	3.0	.5								11.6	5.5
NW	1.1	2.2	3.0	.1								6.7	8.2
NNW	1.1	.5	1.1	.4								3.2	6.0
VARBL													
CALM												15.5	
	24.8	32.3	21.5	5.7	.2							100.0	6.7

TOTAL NUMBER OF OBSERVATIONS 609

JOINT CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

STATION 039 PHELPS-COLLINS/ALPENA MI 73-81 YEAR MAY MONTH
0300-0500 HOURS (L.S.T.)

ALL WEATHER

CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.5	1.2	1.5	1.3	.1							4.7	8.3
NNE	1.2	1.1	.5	.4								3.2	5.1
NE	.7	1.0	1.7	.1								3.6	5.9
ENE	.5	1.0	.5	.1								2.1	5.5
E	.4	.7	.4	.2	.1							2.3	7.2
ESE	1.0	1.6	1.5	.4	.1							4.5	6.4
SE	1.0	2.2	1.5	.5								5.2	6.0
SSE	2.0	2.6	1.1									5.6	4.6
S	1.3	2.3	.9	.6								5.2	5.7
SSW	1.2	.7	1.5	.2								3.7	5.9
SW	2.1	2.5	1.2	.2								6.1	5.0
WSW	1.3	2.0	.4	.1								3.8	4.5
W	2.7	8.6	3.1	1.1								15.5	5.6
WNW	2.5	5.6	2.1	.6								10.8	5.3
NW	1.1	2.1	1.1	.7								5.0	6.1
NNW	1.1	1.2	.6	.5								3.4	5.6
VARBL													
CALM												15.5	
	20.6	36.4	19.9	7.2	.5							100.0	4.5

TOTAL NUMBER OF OBSERVATIONS 815

FEDERAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

STATION 39 PHELPS-COLLINS/ALPENA MI 73-81 MAY
STATION NAME YEARS MONTH
ALL WEATHER
CLARE
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.6	1.1	1.7	1.7	.1							5.2	6.7
NNE	.7	1.6	1.6	.7								4.8	6.6
NE	.9	1.9	1.5	.1								4.4	5.9
ENE	.4	1.0	.4	.1								1.8	5.6
E	.2	.4	1.9	.4								3.4	7.4
ESE	.4	1.4	3.3	.7								6.3	1.6
SE	.6	1.8	1.6	.4								4.4	6.7
SSE	2.3	2.8	1.5	.1								7.2	4.7
S	1.0	1.6	2.2	1.0								5.7	7.0
SSW	.5	1.5	1.6	.6								4.1	7.3
SW	1.5	2.7	1.6									5.6	5.5
WSW	1.5	3.0	1.7	.9								7.1	6.4
W	1.6	7.6	3.3	.9								13.3	6.1
WNW	1.5	3.2	3.5	1.5								9.5	7.2
NW	.1	4.4	2.2	1.0	.1							6.5	7.5
NNW	.7	1.1	1.1	.7								3.7	7.2
VARBL													
CALM												7.1	
	15.3	36.1	30.6	10.7	.2							100.0	6.2

TOTAL NUMBER OF OBSERVATIONS 421

GENERAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

STATION 39 PHELPS-COLLINS/ALPENA MI 73-81 MAY
STATION NAME YEARS MONTH
ALL WEATHER
CLASS
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.4	1.1	4.5	2.7	.5							9.2	9.5
NNE	.1	.9	1.2	1.1	.2							3.5	9.7
NE	.6	1.8	1.3	.9								4.7	7.4
ENE	.1	.9	1.0	.5								2.4	7.7
E	.4	1.5	3.9	1.5								7.2	8.3
ESE	.5	2.3	4.4	1.7	.2							2.2	8.5
SE	.4	2.2	3.1	1.6		.1						7.3	8.5
SSE	.4	2.0	1.5	.1								3.9	6.9
S		1.3	1.5	3.2	.2							6.2	10.5
SSW	.4	.9	1.6	.5	.2							3.5	8.4
SW	.2	1.5	1.2	1.2								4.2	8.3
WSW	.2	1.1	3.7	1.7	.1							6.9	8.9
W	.6	1.5	4.7	2.3	.1							9.4	9.0
WNW	.7	1.8	3.2	2.0	.1							7.8	8.8
NW	.5	.5	2.9	5.1	.2	.4						1.6	11.0
NNW	.4	1.5	2.1	2.1	.2							5.1	9.1
VARBL													
CALM												1.0	
	5.9	22.5	41.7	26.1	2.3	.5						107.0	8.8

TOTAL NUMBER OF OBSERVATIONS 817

U.S. NAVAL CLIMATOLOGY BRANCH
 FLTAC
 WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
 DIRECTION AND SPEED
 (FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION 34 PHELPS-COLLINS/ALPENA MI STATION NAME 73-81 YEARS MAY MONTH 1200-1400 HOURS (L.S.T.)

ALL WEATHER CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.5	1.1	4.9	4.5	.7							11.7	10.2
NNE		.7	1.9	.6	.1							3.3	9.1
NE	.1	1.1	2.2	.4								3.8	7.7
ENE		.1	1.1	.6								1.8	9.3
E	.1	1.6	4.4	2.9								9.2	9.2
ESE	.1	1.1	7.5	6.1	.1							14.9	10.3
SE		1.0	5.1	3.7	.1							9.9	10.0
SSE		.7	.4	1.0	.1							2.2	9.3
S		.5	1.1	2.4	.1	.1						4.3	12.1
SSW		.5	.7	2.0	.1	.1						3.4	11.7
SW	.1	.5	1.3	1.8	.2							4.0	10.3
WSW	.1	.5	1.6	1.1	.1							3.4	9.6
W	.4	1.3	3.7	2.8	.2							8.4	9.4
WNW	.1	.7	2.1	4.4	.4							7.7	11.2
NW		.6	1.5	3.7		.2						5.6	12.1
NNW	.2	.6	2.0	3.3		.1						6.2	10.6
VARBL													
CALM												.1	
	1.8	12.3	41.3	41.3	2.4	.6						100.0	10.2

TOTAL NUMBER OF OBSERVATIONS 613

U.S. NAVAL CLIMATOLOGY BRANCH
 METAC
 WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

139 STATION NAME PHELPS-COLLINS/ALPENA MI 73-81 YEARS MAY MONTH 1500-1700 HOUR (L.S.T.)

ALL WEATHER CLAM

CONDITION

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.2	.5	4.4	5.3	.7							11.1	11.2
NNE		1.2	3.1	1.0								5.3	8.3
NE		.7	2.2	.1								3.1	8.3
ENE	.1	1.0	2.1	.6								3.8	8.0
E	.1	2.1	5.1	3.5	.1							11.6	9.3
ESE	.1	1.6	8.7	8.4	.2							19.5	10.1
SE		.7	4.8	4.8	.2							10.5	10.4
SSE	.1	.2	1.0	1.0	.1							2.4	10.2
S		.2	.7	2.0	.5							3.4	12.3
SSW		.2	.6	1.6	.4							2.6	12.3
SW		.2	.2	.6	.4							1.5	12.3
WSW	.1	.2	.4	2.4	.1							3.3	11.7
W	.1	.5	2.9	2.3	.2							6.1	10.5
WNW		.4	1.6	3.2	.2							5.4	11.5
NW		.5	1.1	3.1	.4							5.0	11.4
NNW		.5	2.2	1.6	.6	.1						5.0	11.3
VARBL													
CALM												.5	
	1.0	11.1	41.6	41.4	4.3	.1						100.0	10.4

TOTAL NUMBER OF OBSERVATIONS 810

AL CLIMATOLOGY BRANCH
 AFAC
 WEATHER SERVICE/140

PERCENTAGE FREQUENCY OF WIND
 DIRECTION AND SPEED
 (FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION 597 HELPS-COLLINS/ALPENA MI 73-81 73-81 73-81
 STATION NAME CLASS YEARS MONTH
 ALL WEATHER
 CLASS
 CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.2	2.2	4.3	5.8	.4							10.7	9.7
NNE	.5	1.6	1.8	.5								4.4	7.6
NE	.6	1.6	1.1	.2								3.5	5.5
ENE	.7	1.9	.7	.1								3.5	5.5
E	.6	3.5	2.9	1.0	.1							3.2	6.9
ESE	1.6	5.2	3.5	1.7								17.3	7.1
SE	1.2	5.8	5.2	.7								13.9	5.5
SSE	.5	1.5	2.2	.9								5.2	7.5
S	.5	1.0	.9	1.6	.1							4.0	8.5
SSW	.4	.2	.5	.4								1.5	7.9
SW	.2	.2	.9	.5								1.8	5.5
WSW	.4	.4	.9	.1		.1						1.8	7.3
W	.2	1.1	2.3	1.1								4.8	8.2
WNW	.4	1.5	1.2	2.9	.1							6.1	9.5
NW	.2	1.7	1.8	2.4	.6							5.0	10.1
NNW	.4	.7	2.2	2.7								2.8	9.5
VARBL													
CALM												1.7	
	3.9	30.0	37.4	25.6	1.3	.1						100.0	7.7

TOTAL NUMBER OF OBSERVATIONS 821

U.S. AIR FORCE CLIMATOLOGY BRANCH
AFATAC
U.S. WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION NO. 52 STATION NAME PHILIPS-COLLINS/ALPENA MI YEARS 73-81 MONTH MAY
CLASS ALL WEATHER
CONDITION 2100-2500
HOURS (L.S.T.)

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.0	2.3	2.1	.7	.1							5.0	1.0
NNE	1.0	1.2	.6	.4								3.2	5.7
NE	1.5	1.1	.4	.2								3.2	4.7
ENE	1.5	1.5		.1								3.1	3.8
E	1.3	1.0	1.0	.5								4.3	5.4
ESE	2.6	2.5	1.5	.1								8.6	5.1
SE	3.4	2.2	1.5	.2								7.4	4.3
SSE	2.1	2.2	.9	.7								5.9	5.0
S	2.2	3.6	2.2	1.0								7.9	5.7
SSW	.4	.5	1.1	.4								2.5	6.6
SW	.4	1.1	.5									2.2	4.7
WSW	1.6	1.6										3.2	3.8
W	2.1	3.6	2.6	.5								8.7	5.8
WNW	1.0	2.6	3.2	.6								7.4	6.5
NW	.5	2.6	2.5	1.8								7.4	8.0
NNW	.5	1.1	3.1	.7								5.4	8.1
VARBL													
CALM												13.0	
	25.4	37.5	22.9	8.1	.1							100.0	5.1

TOTAL NUMBER OF OBSERVATIONS 814

U.S. AIR FORCE
 10-10-64
 10-10-64

PERCENTAGE FREQUENCY OF WIND
 DIRECTION AND SPEED
 (FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION 102 STATION NAME PHILPS-COLLINS AIRFIELD MI 77-81 YEARS MAY SOUTH
 ALL WEATHER CLASS ALL HOURS (L.S.T.)
 CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.1	1.5	3.1	2.6	.5							1.4	4.5
NNE	.1	1.2	1.4	.6	.7							3.5	7.5
NE	.1	1.3	1.4	.3								3.2	6.5
ENE	.1	1.1	.5	.3	.7							3.5	6.4
E	.1	1.7	2.7	1.3	.1							6.1	6.7
ESE	.1	2.3	4.7	2.4	.1							13.4	5.3
SE	.1	2.2	2.0	1.5	.7	.7						7.7	7.6
SSE	1.3	1.1	1.1	.5	.7							4.7	6.1
S	1.3	1.6	1.5	1.5	.1	.7						6.1	7.6
SSW	.5	.1	1.0	.8	.1	.7						3.2	6.7
SW	.1	1.2	.9	.6	.1							3.7	6.9
WSW	1.1	1.3	1.1	.8	.7	.7						4.3	7.1
W	1.4	3.5	3.2	1.5	.1							13.7	7.1
WNW	1.1	2.7	2.5	2.0	.1							5.3	7.3
NW	.5	1.5	2.4	2.0	.6	.1						7.3	7.1
NNW	.5	.9	1.8	1.5	.1	.7						4.7	6.7
VARBL													
CALM												5.7	
	12.9	24.4	32.1	21.2	1.4	.7						100.0	7.2

TOTAL NUMBER OF OBSERVATIONS 1536

1
FEDERAL CLIMATOLOGY BRANCH
METAC
WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

39 STATION
PHELPS-COLLINS/ALPENA MI STATION NAME
73-81 YEARS
ALL WEATHER CLASS
JUL MONTH
4000-0200 HOURS (L.S.T.)
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.1	1.1	1.7									3.7	5.1
NNE	.1	.1	.4									1.4	4.6
NE	.5	.8	.3									1.5	4.6
ENE	.5	.6	.1									1.3	4.7
E	.4	.7										.9	3.7
ESE	.4	1.3	.9									2.9	5.3
SE	2.4	2.5	1.4									6.4	4.5
SSE	2.4	3.1	.8	.3								6.5	4.6
S	4.6	5.2	3.2	.3								14.1	5.7
SSW	2.3	2.9	1.4	1.0								8.5	5.7
SW	2.3	3.5	1.1									6.5	4.6
WSW	2.4	2.2	.3	.3								3.6	4.5
W	2.8	6.7	1.3	.1								10.9	4.6
WNW	2.5	4.6	1.1	.4	.1							6.8	5.2
NW	1.1	1.3	1.8	1.0								5.7	6.7
NNW	.4	.4	.6	.9								3.3	7.6
VARBL													
CALM												12.1	
	38.1	38.4	17.2	4.2	.1							100.0	4.5

TOTAL NUMBER OF OBSERVATIONS 737

U. S. AIR FORCE CLIMATOLOGY BRANCH
 AFAC
 WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

STATION 39 STATION NAME PHILIPS-COLLINS/ALPENA MI YEARS 73-81 MONTH JUL
 CLASS ALL WEATHER HOURS (L.S.T.) 0300-1500
 CONDITION _____

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.5	1.3	1.5									2.5	6.4
NNE	.5	.9	.8									2.4	5.3
NE	.4	.3	.4									1.0	5.6
ENE	.3	.4	.3	.1								1.0	6.8
E	.5	.5	.1									1.4	5.8
ESE	.5	1.1	.4	.4								2.5	5.9
SE	1.4	2.1	1.1	.1								4.8	5.2
SSE	1.5	2.5	.8	.3								5.0	4.8
S	4.7	5.4	2.8	.9								13.7	5.2
SSW	2.4	3.4	1.6	.3								7.7	5.2
SW	2.5	5.2	1.3									6.3	4.8
WSW	3.0	2.5	1.8	.1								7.4	4.7
W	4.3	4.7	3.1	.4								12.5	4.8
WNW	2.9	3.4	2.0		.1							8.4	5.1
NW	1.4	2.1	1.9	.8								8.2	6.0
NNW	.9	.4	.6	.8	.1							3.1	7.0
VARBL													
CALM												14.0	
	27.5	34.1	20.2	4.0	.3							102.3	4.5

TOTAL NUMBER OF OBSERVATIONS 794

NATIONAL CLIMATOLOGY BRANCH
FEDERAL
WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

39 STATION HELPS-COLLINS/ALPENA MI 73-81 YEARS JUN MONTH
STATION NAME CLASS ALL WEATHER
CONDITION 6692-7890 HOURS (L.S.T.)

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.5	1.3	.4	.8								3.3	7.3
NNE	.2	.3	1.3	.9								3.1	7.5
NE	.1	.5	.5	.6								1.9	8.3
ENE	.6	.5										1.1	3.9
E	.5	.8	.6									1.9	5.1
ESE	.3	1.4	1.8	.6								4.1	7.0
SE	1.4	2.2	2.0	.1								5.7	6.7
SSE	1.6	2.5	.6	.5								3.3	5.1
S	1.5	4.4	3.7	1.3								10.9	6.5
SSW	1.0	2.8	2.4	.9								7.1	6.6
SW	1.4	3.4	2.9	.1								8.4	5.4
WSW	1.0	2.7	2.8	.4								5.8	6.4
W	3.8	5.6	5.4	.9								15.0	6.3
WNW	1.5	2.7	3.2	1.8								9.1	7.3
NW	.5	1.9	1.4	1.0								4.8	7.4
NNW	.5	1.1	1.4	1.1	.1							4.5	8.4
VARBL													
CALM												5.1	
	16.9	35.1	31.8	11.0	.1							100.0	6.2

TOTAL NUMBER OF OBSERVATIONS 789

NATIONAL CLIMATOLOGY BRANCH
METAL
WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

STATION 39 PHILIPS-COLLINS/ALPENA MI 73-81 JUN
STATION NAME YEARS MONTH
ALL WEATHER
CLASS
CONDITION
1900-1900
HOURS (L.S.T.)

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 14	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.3	.6	5.0	1.5	.3							5.7	9.6
NNE		.6	1.0	1.0	.1							2.8	9.9
NE	.5	.5	1.4	.4	.1							2.9	7.9
ENE	.3	.3	1.3	.3								2.0	7.7
E	.3	.4	1.3	.6								2.5	8.3
ESE	.1	.6	2.9	1.9								5.6	9.4
SE	.4	1.5	3.7	1.0								5.5	7.9
SSE	.1	1.5	3.0	.5								5.2	7.6
S	.6	1.5	4.3	2.9								9.5	8.7
SSW	.1	1.1	2.5	2.0								5.8	9.1
SW	.4	.9	3.4	2.5	.1							7.7	9.0
WSW	.5	2.8	4.0	2.1								9.5	8.1
W	.8	2.7	6.6	3.0	.1	.1						13.3	8.6
WNW	.4	1.3	3.4	3.2	.1							9.7	9.3
NW	.3	.4	2.8	2.3								5.7	9.8
NNW	.1	.5	1.8	2.7	.3							5.6	10.5
VARBL													
CALM												.4	
	5.6	18.1	46.4	27.9	1.1	.1						100.0	8.6

TOTAL NUMBER OF OBSERVATIONS 791

CLIMATE CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

STATION 039 PHELPS-COLLINS/ALPENA MI STATION NAME 73-81 YEARS MONTH JUN
ALL WEATHER CLASS 1200-1400 HOURS (L.S.T.)
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.1	.5	5.2	5.5	.4							7.7	10.5
NNE	.1	.4	1.6	1.3								5.4	9.5
NE	.1	.4	.6	.9								2.0	9.7
ENE		.4	.8	.3								1.4	8.5
E		.9	4.8	1.8	.1							7.6	9.2
ESE		.5	1.6	4.2								12.4	10.3
SE		1.0	4.8	2.7								7.5	9.5
SSE		.5	2.5	.3								3.3	8.5
S	.3	.1	2.4	3.3	.3							6.3	11.2
SSW		.4	2.4	2.7								5.4	10.5
SW	.4	1.6	2.8	2.9	.1							7.4	9.5
WSW	.1	1.0	2.4	2.9	.1							6.6	10.0
W	.3	1.4	4.1	3.5	.5	.1						7.9	10.2
WNW		1.1	2.9	4.2	.1							7.5	10.8
NW	.1	.1	2.5	2.7	1.0							6.5	11.9
NNW		.1	1.4	1.4	.6							3.5	11.5
VARBL													
CALM													
	1.5	10.9	46.0	38.1	3.3	.1						100.0	11.1

TOTAL NUMBER OF OBSERVATIONS 789

U.S. NAVAL CLIMATOLOGY BRANCH
FLEET
WEATHER SERVICE/MAU

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION 39 PHILIPS-COLLINS/ALPENA MI STATION NAME 73-81 YEARS JUN
MONTH 1950-1951
ALL WEATHER
CLAS
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.1	.3	4.3	4.6	.3							10.7	11.6
NNE		.0	1.9	1.3	.3							4.1	10.2
NE		.2	1.5	1.0								3.0	9.5
ENE	.1	.1	.8	.3								1.3	7.9
E	.3	.9	4.4	1.3								6.6	8.8
ESE	.1	1.9	9.9	4.8	.3							15.9	9.7
SE	.3	.0	5.4	3.9								10.3	9.8
SSE		.5	1.1	.6								2.0	9.7
S		1.3	2.8	3.4	.5							8.0	10.5
SSW		.3	1.3	2.0	.1							3.7	11.3
SW	.1	.2	1.5	1.9								4.2	9.9
WSW		.4	2.5	2.5	.3							5.4	10.5
W	.1	.3	3.8	2.2	.4							1.2	10.1
WNW	.4	.5	2.9	2.9	.1	.1						7.3	10.3
NW		.4	1.6	2.4	.4							4.8	11.6
NNW	.1	.3	1.3	3.5	.5							5.7	12.7
VARBL													
CALM												.1	
	1.5	10.1	46.3	34.6	3.1	.1						100.0	10.7

TOTAL NUMBER OF OBSERVATIONS 792

LEGAL CLIMATOLOGY BRANCH
USFETAC
AT WEATHER SERVICE/MAL

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

39 STATION PHELPS-COLLINS/ALPENA MI 73-81 YEARS JUN 1900-2000 MONTH (L.S.V.)
ALL WEATHER CLASS
CONDITION

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.4	1.0	3.9	3.0	.1							3.4	9.7
NNE	.3	1.3	1.4	.8	.3							3.9	8.4
NE	.5	1.5	.9	.5								3.1	5.0
ENE	.6	1.3	1.3									3.1	5.7
E	.6	3.8	2.4	.1								6.9	6.0
ESE	1.1	5.2	7.1	1.3								14.6	6.9
SE	1.4	5.0	5.8	.9								13.1	5.6
SSE	.5	2.1	1.8	.9	.1							3.4	7.0
S	.4	1.8	2.6	.8								5.5	7.8
SSW	.3	.9	.8	.8								4.6	7.0
SW	.3	1.1	1.4	.8								3.5	7.9
WSW	.5	1.1	2.0	.4								4.0	7.2
W	.6	2.4	3.1	1.4	.1							7.1	7.9
WNW	.5	1.8	2.3	1.3								5.8	8.3
NW	.3	1.0	1.6	2.6	.1							5.7	10.1
NNW	.1	.9	1.8	2.4	.3							5.4	13.4
VARBL													
CALM												.5	
	8.6	32.4	40.1	17.5	1.0							100.0	7.5

TOTAL NUMBER OF OBSERVATIONS 794

CLIMATE CLIMATOLOGY BRANCH
USAFETAC
AIR FORCE SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

STATION PHILIPS-COLLINS/ALPENA MI YEARS 75-81 MONTH JUN
CLASS ALL WEATHER HOURS (L.S.T.) 2100-2300
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.6	1.2	.6	1.0								4.3	6.2
NNE	.5	1.3	.4	.1								2.3	4.7
NE	.5	1.4	.4	.3								2.5	5.7
ENE	.5	.9	.4	.1								1.9	5.0
E	1.0	.8										1.8	3.5
ESE	1.8	1.9	.9									4.6	4.6
SE	2.4	5.1	2.8	.3								10.5	5.5
SSE	2.5	3.7	1.9									8.1	4.8
S	4.7	4.9	2.3	.3								12.1	4.7
SSW	1.3	2.8	2.1	.4								6.6	5.9
SW	2.3	1.4	.8	.1								4.6	4.4
WSW	1.9	1.8	1.0	.1								4.8	4.6
W	2.3	3.5	1.0	.1	.1							7.1	5.1
WNW	1.6	3.3	1.5	.3								6.1	5.9
NW	.6	2.0	2.8	1.4								6.8	7.7
NNW	.4	1.6	1.4	.5	.3							4.2	7.5
VARBL													
CALM												11.9	
	24.3	57.3	24.2	4.9	.4							100.0	4.8

TOTAL NUMBER OF OBSERVATIONS 791

CLIMATE CLIMATOLOGY BRANCH
 W. L. IAC
 WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
 DIRECTION AND SPEED
 (FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION 39 STATION NAME PHELPS-COLLINS/ALPENA MI YEARS 73-81 MONTH JUN
 ALL WEATHER CLASS ALL HOURS (L.S.T.)
 CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.6	.9	2.3	1.8	.1							5.7	9.0
NNE	.3	.8	1.1	.7	.1							3.0	8.0
NE	.4	.8	.7	.4	.0							2.5	7.2
ENE	.4	.8	.5	.1								1.6	6.2
E	.5	1.1	1.7	.5	.0							3.7	7.3
ESE	.6	1.9	3.8	1.6	.0							7.8	8.2
SE	1.2	2.5	3.4	1.1								8.3	7.1
SSE	1.1	2.0	1.6	.4	.0							5.1	6.1
S	2.1	3.2	3.0	1.6	.1							10.0	6.9
SSW	1.0	1.8	1.9	1.2	.0							5.9	7.3
SW	1.2	2.0	1.9	1.0	.0							6.2	6.9
WSW	1.2	1.0	2.1	1.1	.0							6.3	7.1
W	1.8	3.5	3.6	1.5	.2	.0						10.4	7.0
WNW	1.2	2.4	2.3	1.7	.1	.0						7.7	7.7
NW	.6	1.2	2.1	1.9	.2							5.8	8.9
NNW	.4	.8	1.3	1.7	.3							4.4	9.7
VARBL													
CALM												5.7	
	14.4	27.1	33.4	18.3	1.2	.0						100.0	7.1

TOTAL NUMBER OF OBSERVATIONS 6325

NAVAL CLIMATOLOGY BRANCH
DETAC
WEATHER SERVICE/MAJ

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION PHILIPS-COLLINS/ALPENA MI YEAR 75-81 MONTH JUL
 CLASS ALL WEATHER MONTHS (L.S.V.) 0000-2400
 CONDITION _____

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.7	.5	.6	.4								2.2	0.5
NNE	.5	1.1	.2									2.2	4.5
NE	.7	.1	.6									1.1	3.4
ENE	.2	.0	.1									1.0	4.0
E	.7	.4										1.1	3.2
ESE	.7	.4	.2	.2								1.5	5.3
SE	.4	1.2	.6									2.2	5.6
SSE	1.0	4.7	.4	.1								4.0	4.0
S	2.7	4.5	1.7									8.9	4.0
SSW	1.1	3.2	1.4									5.7	5.7
SW	2.2	4.6	1.7									8.6	4.7
WSW	4.6	5.0	2.1	.1								11.8	4.4
W	4.1	7.9	1.7	.2								14.0	4.0
WNW	1.2	5.7	2.0	.6								9.5	5.7
NW	.6	1.9	1.7	.2								4.5	6.3
NNW	.7	1.1	.6	.7								3.2	7.0
VARBL													
CALM												15.3	
	23.2	44.6	15.5	2.7								100.0	4.1

TOTAL NUMBER OF OBSERVATIONS 807

1
FEDERAL CLIMATOLOGY BRANCH
FETAC
U.S. WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

39 STATION PHELPS-COLLINS/ALPENA MI 13-81 YEAR JUL NORTH
ALL WEATHER
CLAS
CONDITION
1300-0500
HOURS (L.S.T.)

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.4	.7	.6	.2								1.0	6.2
NNE	.5	.9	.1									1.5	4.5
NE	.7	1.1	.5									2.3	4.6
ENE	.5	.2	.1									1.0	3.4
E	.1	.5										.6	4.5
ESE	.4	.6	.2									1.2	4.3
SE	.2	.4	.2									.9	5.6
SSE	2.4	2.1	.2	.1								5.3	3.7
S	5.5	3.0	1.2	.4								6.7	4.4
SSW	1.3	3.2	1.8	.1								5.5	5.4
SW	3.2	5.5	1.3	.5								12.5	5.2
WSW	2.4	4.1	1.8	.2								6.9	4.8
W	4.5	7.8	1.2	.1								13.7	4.4
WNW	3.1	5.3	2.3	.5								11.1	5.2
NW	1.2	1.6	1.1	.6								4.3	6.3
NNW	1.2	.4	.2	.7								2.3	6.4
VARBL													
CALM												19.2	
	21.2	31.4	13.2	3.5								100.0	4.8

TOTAL NUMBER OF OBSERVATIONS 410

AF CLIMATOLOGY BRANCH
 AFMPC
 AIR FORCE SERVICE/NAO

PERCENTAGE FREQUENCY OF WIND
 DIRECTION AND SPEED
 (FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION 57 WHEELER-COLLINS/ALPENA MI 13-81 YEARS 1961-1980
 STATION NAME WHEELER-COLLINS/ALPENA MI MONTH JUL
 CLASS ALL WEATHER HOURS (L.S.T.) 0000-2359
 CONDITION _____

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.5	.4	1.2	.4								.5	7.2
NNE	1.4	.9	.5									.7	4.4
NE	.1	1.2	.9									.2	4.0
ENE	.1	.1	.4									.0	3.1
E	.2	.2	.5	.1								.5	3.1
ESE	.5	.5	.6									.1	3.5
SE	.5	1.0	.6									.1	4.7
SSE	.1	1.0	.9									.2	3.0
S	1.4	3.3	2.1	.2								.4	3.0
SSW	1.0	1.0	3.2	.2								.1	4.7
SW	2.0	5.5	4.3	.6								.9	3.2
WSW	3.2	6.4	3.1	.1								.7	3.1
W	2.0	6.1	3.8	.4								.5	3.5
WNW	1.1	4.1	3.5	1.1								.6	6.4
NW	1.2	2.1	2.6	.9								.6	7.0
NNW	.5	1.2	1.1	.6								.5	7.1
VARBL													
CALM												.0	
	1.3	3.1	4.6	4.7								1.0	3.0

TOTAL NUMBER OF OBSERVATIONS 627

7
 NATIONAL CLIMATOLOGY BRANCH
 AFSS TAC
 AIR FORCE WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
 DIRECTION AND SPEED
 (FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION 59 PHILPOT-COLLINS/ALPHEA MI 1958 JUL
STATION NAME YEARS MONTH
ALL WEATHER
CLASS
1958-1958
PERIOD (L.S.T.)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.2	1.5	2.4	2.6								7.3	2.2
NNE	.5	1.5	1.6	.1								3.2	5.2
NE	.7	1.5	.7									2.0	5.0
ENE		1.1	.7	.2								2.1	7.4
E	.1	1.1	.9	.2								2.3	7.2
ESE	.1	1.4	1.7	.6								3.2	7.4
SE	1.1	1.3	1.5	.4								4.3	6.1
SSE	.5	.7	2.0	.2								1.4	6.0
S	.1	1.5	3.8	1.7	.1							7.3	4.1
SSW	.2	1.1	3.0	.4								4.1	7.7
SW	.4	2.7	5.4	1.0	.2							7.7	5.1
WSW	.5	5.3	7.1	1.5								14.5	7.3
W	.7	1.5	5.0	1.1								9.7	7.7
WNW	.5	5.1	4.1	3.0								10.5	5.2
NW	.5	1.7	3.7	1.5								7.6	5.2
NNW	.5	.5	1.6	2.7	.1							4.4	7.9
VARBL													
CALM												.2	
	5.5	20.4	46.9	17.4	.5							100.0	7.8

TOTAL NUMBER OF OBSERVATIONS 512

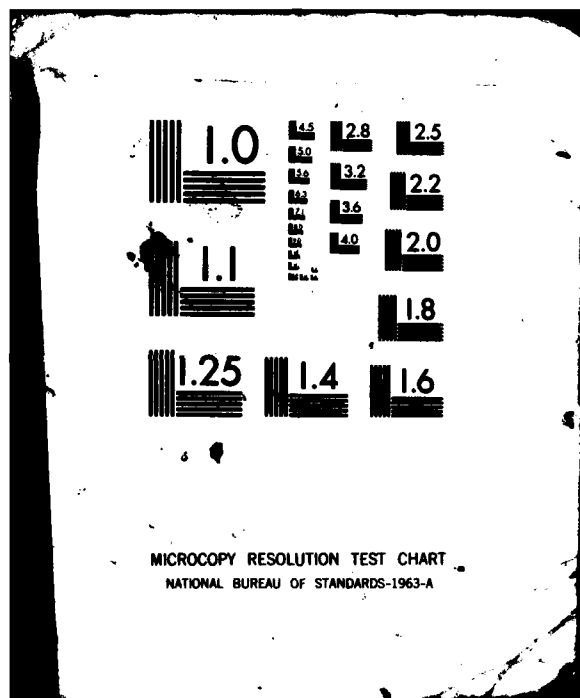
AD-A116 099 AIR FORCE ENVIRONMENTAL TECHNICAL APPLICATIONS CENTER--ETC F/G 4/2
PHELPS-COLLINS, ALPENA, MICHIGAN. REVISED UNIFORM SUMMARY OF SU--ETC (1)
MAY 82

UNCLASSIFIED USAF/TAC/DS-82/031

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GLOBAL CLIMATOLOGY BRANCH
USAFETAC
41 WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION PHILIPS-COLLINS/ALPENA MI YEARS 75-81 MONTH JUL
CLASS ALL WEATHER PERIOD 1200-1400
CONDITION

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.4	.7	4.8	3.1								8.9	9.7
NNE		1.0	1.6	.1								2.7	7.4
NE		.7	1.2	.6								2.6	8.0
ENE	.1	.9	.5	.1								1.6	6.3
E		1.6	3.5	1.0								6.1	8.2
ESE	.1	1.0	7.1	2.2								10.4	9.1
SE	.4	.9	3.7	1.6								6.5	8.7
SSE	.1	.7	.6	.9								2.3	9.0
S	.4	.9	2.9	2.3	.1							6.6	9.4
SSW		1.2	1.5	1.2	.1							4.0	9.3
SW		1.2	3.5	1.1								5.9	8.9
WSW	.2	1.8	8.6	2.7								9.4	8.9
W	.5	2.1	5.0	3.2	.1							10.9	8.9
WNW	.1	1.5	3.8	2.8	.1							8.3	9.7
NW		1.1	3.1	3.8								7.6	10.3
NNW		.6	1.3	3.7	.5							6.1	11.8
VARB.													
CALM												.1	
	2.3	11.8	88.8	10.0	1.0							100.0	9.2

TOTAL NUMBER OF OBSERVATIONS 818

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

12639 STATION PHLEPS-COLLINS/ALPENA MI 75-81 YEAR JUL
ALL WEATHER CLASS 1500-1700
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.2	.7	4.0	2.4	.2							7.7	9.8
NNE		1.1	2.2	.7								4.0	8.4
NE		.5	1.2	.4								2.1	8.2
NNE	.2	1.1	1.2	.4								2.8	7.7
E		1.0	3.3	1.7								6.0	9.1
ESE		2.0	8.0	4.9								14.9	9.6
SE	.5	.7	5.1	3.7								10.0	9.3
SSE	.2	.2	1.8	1.0								3.3	9.0
S	.1	.2	2.0	2.3								4.6	10.6
SSW	.1	.4	.9	1.3								2.7	9.9
SW	.2	.5	2.7	1.3		.1						4.9	9.5
WSW	.4	.9	2.7	1.3	.2							5.5	9.0
W		1.5	3.5	3.3	.1							8.4	9.7
WNW	.2	1.1	2.6	2.1	.2							6.2	9.4
NW	.1	1.3	3.3	3.3	.6							8.7	10.4
NNW	.2	.4	2.3	5.1	.1							8.2	11.3
VARB.													
CALM												.1	
	2.7	13.4	40.8	35.2	1.8	.1						100.0	9.6

TOTAL NUMBER OF OBSERVATIONS 840

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

170390 STATION PHELPS-COLLINS/ALPENA MI 73-81 YEAR JUL
1800-2000
MONTH (L.A.T.)

ALL WEATHER
CLASS

CONDITION

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.1	1.1	3.3	2.0								6.6	9.3
NNE	.1	.6	.6	.7								2.1	8.3
NE	.2	1.4	.9	.2								2.7	6.9
NNE	.4	.9	.4									1.6	5.4
E	.5	1.5	1.9	.1								4.0	6.9
ESE	1.0	5.7	6.3	.7								13.7	6.8
SE	1.0	5.6	6.1	1.0								13.6	6.8
SSE	.5	2.5	2.5									5.9	6.5
S	.5	1.7	3.6	.9								6.7	8.1
SSW	.1	1.0	1.7	.9								3.7	8.9
SW	.2	1.2	2.1	.1								3.7	6.8
WSW	.6	1.5	1.9	.5								4.8	7.0
W	.6	2.7	2.2	1.2	.2							6.9	7.5
WNW	.5	2.2	3.7	1.8	.2	.1						8.9	8.6
NW		2.1	3.6	1.6	.1							7.8	9.0
NNW		1.1	3.7	2.6								7.8	9.5
VARBL													
CALM												1.6	
	6.8	42.8	88.8	18.1	.6	.1						100.0	7.5

TOTAL NUMBER OF OBSERVATIONS 849

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

17059
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

75-81
YEAR

JUL
MONTH

ALL WEATHER
CLASS

2100-2300
HOURS (L.S.T.)

CONDITION

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.5	1.6	1.5	.1								3.7	5.9
NNE	.4	.4	.2									1.0	4.8
NE	.6	.7	.1	.2								1.7	5.3
NNE	1.3	.5	.1									2.0	5.6
E	1.0	.4	.1									1.5	3.4
ESE	.9	1.3		.1								2.3	4.3
SE	1.5	2.3	1.1									4.9	5.0
SSE	2.0	3.1	.6	.1								6.4	4.8
S	3.9	6.3	2.5	.1								12.8	4.9
SSW	1.8	2.9	1.5									6.3	5.1
SW	1.5	3.3	1.2									6.0	4.8
WSW	2.2	2.1	.7	.1								5.2	4.4
W	2.8	5.4	1.3	.9								18.2	5.2
WWW	1.6	3.2	2.1	.4								9.2	5.4
NW	1.2	2.9	3.3	.9								8.3	6.7
NNW	.5	1.5	1.6	.4	.1							4.0	6.8
VARIABLE													
CALM	X	X	X	X	X	X	X	X	X	X	X	14.6	
	23.7	40.2	18.0	3.3	.1							100.0	4.9

TOTAL NUMBER OF OBSERVATIONS 815

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
ALM WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

725194
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEAR

JUL
MONTH

ALL WEATHER
CLASS

ALL
MOOD (L.S.V.)

DIRECTION

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.8	.9	2.8	1.8	.0							5.1	8.7
NNE	.8	.9	.9	.2								2.5	6.5
NE	.8	.9	.7	.2								2.2	6.0
NNE	.9	.7	.5	.1								1.6	5.9
E	.8	.8	1.3	.8								2.9	7.2
ESE	.5	1.6	3.0	1.1								6.2	7.9
SE	.7	1.8	2.8	.8								5.7	7.1
ESE	1.1	1.8	1.1	.3								4.3	5.7
S	1.8	2.8	2.5	1.0	.0							7.8	6.7
SSW	.7	1.8	1.9	.5	.0							4.9	6.8
SW	1.2	3.1	2.8	.6	.0	.0						7.8	6.8
WSW	1.8	1.8	1.0	.8	.0							9.1	6.2
W	2.0	9.5	3.1	1.3	.1							10.9	6.8
WNW	1.0	3.5	3.8	1.5	.1	.0						9.1	7.3
NW	.6	1.8	2.8	1.6	.1							6.9	8.3
NNW	.8	.8	1.6	2.1	.1							5.0	9.8
VARIABLE													
CALM												7.9	
	14.8	31.2	32.9	13.9	.8	.0						100.0	6.8

TOTAL NUMBER OF OBSERVATIONS

6506

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/HAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

1/039U
STATION

PHELPS-COLLINS/ALPENA M1
WEATHER NAME

73-81
YEAR

AUG
MONTH

ALL WEATHER
CLASS

0000-0200
GDD (L.A.T.)

CONDITION

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.6	.6	.9	.1								2.2	5.8
NNE		.2	.7									1.0	7.6
NE	.2	.4	.2	.1								1.0	5.8
NNE	.6	.6	1.1									2.3	5.9
E	.6	.4	.4									1.4	4.8
ESE	.6	.9	.1									1.6	3.8
SE	1.1	1.2	.4	.1								2.8	4.7
SSE	2.6	2.3	1.4	.1								6.4	4.4
S	3.7	5.9	2.2	.4								12.2	5.0
SSW	1.1	3.7	1.1	.1								6.0	5.1
SW	4.2	4.2	1.0		.1							9.5	4.3
WSW	2.8	5.1	.6									8.5	4.1
W	3.6	6.4	1.4	.2								12.1	4.6
WW	1.7	4.7	1.2	.1								7.8	4.9
NW	.9	1.4	.9									3.1	4.9
NNW	.6	.9	.7	.2								2.5	6.5
VARBL													
CALM												19.5	
	25.1	39.4	14.3	1.0	.1							100.0	3.9

TOTAL NUMBER OF OBSERVATIONS 810

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

10039U
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEAR

AUG
MONTH

ALL WEATHER
CLASS

0300-0500
PERIOD (L.S.T.)

CONDITION

SPEED (KMTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	1.6	.6	.5	.1								2.9	8.8
NNE	.1	.8	.8									.9	6.1
NE	.6	.8	.5	.1								2.0	5.9
ENE	.6	.8	.4									1.8	4.9
E	.4	.5	.9									1.8	6.3
ESE	.6	.8	.8	.1								1.5	5.2
SE	.5	.8	1.0									1.9	5.7
SSE	1.1	2.0	1.1									6.3	8.6
S	2.1	4.0	3.1	.9	.1							10.3	9.2
SSW	2.0	3.5	2.9	..	....							8.4	5.3
SW	2.8	5.0	1.0									8.8	4.8
WSW	8.1	8.1	.9									9.2	3.9
W	5.8	7.2	2.8	.3								15.6	8.5
WNW	3.0	2.0	1.3	.3								6.5	4.6
NW	1.3	1.1	1.1	....								3.5	5.0
NNW	.3	.8	.1									1.1	8.8
VARIABLE													
CALM												19.6	
	26.6	33.5	18.3	1.8	.1							100.0	3.9

TOTAL NUMBER OF OBSERVATIONS

726

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

170590
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-01
YEARS

AUG
MONTH

ALL WEATHER
CLASS

0600-0800
HOURS (L.S.T.)

COORDINATE

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.0	.5	.4	.1								2.0	4.9
NNE	.5	.6	.7	.4								2.2	6.8
NE	.2	.1	.6	.2								1.2	7.8
ENE	.4	.5	.4									1.2	5.5
E	.6	.6	1.9	.1								3.2	6.7
ESE	.4	.2	.4	.1								1.1	5.9
SE	.7	.7	1.5	.2								3.2	6.5
SSE	1.9	1.7	.4	.2								4.2	4.5
S	2.6	2.8	2.2	1.1								8.8	6.2
SSW	1.2	3.3	1.9	.4								6.8	5.9
SW	3.5	5.8	3.6	.1								13.0	5.1
WSW	3.2	5.1	1.6	.1								10.0	4.8
W	5.1	6.1	3.1	.1								14.3	4.7
WNW	2.3	4.0	2.6	.4	.1							9.4	5.8
NW	1.0	2.0	1.5	.2								4.7	6.1
NNW	.4	1.1	.5	.1								2.1	5.4
VARBL													
CALM												12.5	
	25.0	35.2	23.1	4.1	.1							100.0	6.8

TOTAL NUMBER OF OBSERVATIONS 809

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

STATION PHILIPS-COLLINS/ALPENA MI YEARS 73-81 AUG 0900-1100
STATION NAME ALL WEATHER CLASS 0900-1100
CONDITION 0900-1100

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.5	2.1	1.7	.9								5.2	7.1
NNE	.4	.7	1.0	.1								2.2	6.6
NE	.4	1.7	1.8	.6								4.1	7.2
ENE	.4	1.1	1.0									2.5	6.2
E	.4	1.7	1.7	.1								4.0	6.6
ESE		1.0	1.1	.2								2.4	7.5
SE	1.0	1.6	2.4	.2								5.2	6.3
SSE	.4	1.2	2.0	.5								4.1	7.5
S	1.4	4.0	4.2	1.1								10.7	6.8
SSW	.2	1.4	2.5	1.1								5.7	8.1
SW	.6	2.6	6.1	1.1								10.4	7.8
WSW	.9	3.6	6.0	.7								11.2	7.2
W	1.2	2.9	6.2	1.1								11.4	7.5
WNW	1.1	3.0	5.0	1.7								8.8	7.4
NW	.2	1.4	3.1	1.9								7.1	8.7
NNW	.1	1.6	1.7	.7								4.2	7.9
VARS													
CALM												.6	
	9.2	32.7	45.1	12.3								100.0	7.3

TOTAL NUMBER OF OBSERVATIONS 804

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

126390
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

AUG
MONTH

ALL WEATHER
CLASS

1200-1400
HOURS (L.S.T.)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.2	1.1	2.6	1.7								5.7	8.8
NNE	.1	.6	1.5	.6								2.8	8.3
NE	.2	1.1	2.0	.2								3.6	7.4
ENE		.4	1.4	.1								1.9	8.0
E	.4	.9	3.6	.2								5.1	8.0
ESE	.2	2.1	5.2	1.9								9.4	8.3
SE	.4	1.7	5.3	1.6								9.0	8.5
SSE		1.4	1.4	.7								3.5	8.0
S	.6	1.0	3.0	2.0	.1							6.7	8.8
SSW		1.5	2.6	2.0								6.1	9.1
SW	.1	1.9	5.2	1.1								8.3	8.5
WSW	.2	1.6	4.8	2.7								9.4	9.0
W	.6	2.1	3.8	3.0								9.5	8.8
WNW	.4	.9	3.5	2.8	.2							7.8	9.7
NW		1.1	1.9	2.3								5.3	9.7
NNW	.4	.6	2.1	2.1	.1							5.3	9.4
VARBL													
CALM												.7	
	4.0	19.9	49.7	25.2	.5							100.0	8.7

TOTAL NUMBER OF OBSERVATIONS

809

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

100397
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

AUG
MONTH

ALL WEATHER
CLASS

1500-1700
HOURS (L.S.T.)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N		1.0	3.7	2.3	.1							7.2	9.7
NNE	.1	.9	2.1	.2								3.3	7.6
NE	.1	1.2	1.5	.5								3.3	7.7
ENE		.7	2.5	.1								3.3	8.0
E	.2	1.1	4.9	.7	.1							7.2	8.3
ESE	.1	1.4	11.1	3.6								16.2	9.0
SE	.1	1.8	7.0	2.7								11.2	8.8
SSE	.2	.4	1.1	.6								2.3	8.2
S	.4	1.2	2.7	1.9								6.0	8.9
SSW	.1	1.4	.7	1.4	.2							3.8	9.5
SW		.6	3.2	1.5	.1							5.4	9.7
WSW	.1	1.0	8.1	1.8								6.5	8.7
W	.1	1.5	4.8	2.0	.2							8.3	9.0
WNW	.1	.5	2.7	2.8								6.2	10.2
NW	.2	.5	1.5	2.3								4.6	10.4
NNW	.1	.5	1.6	2.3								4.6	10.0
VARBL													
CALM												.5	
	2.1	15.2	58.9	26.8	.9							100.0	9.0

TOTAL NUMBER OF OBSERVATIONS

810

1140

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

STATION 7391 PHELPS-COLLINS/ALPENA MI STATION NAME 73-81 YEARS
ALL WEATHER CLASS
1800-2000 HOURS (L.S.T.)
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.2	1.2	2.8	1.2								3.6	8.2
NNE	.9	1.6	1.0	.1								3.6	5.4
NE	.5	3.0	.9									4.3	5.4
ENE	.4	1.7	.6	.1								2.8	5.5
E	1.1	1.6	1.5	.1								4.3	5.6
ESE	.6	5.1	4.4	.4								10.5	6.6
SE	2.1	6.4	5.6	.9								14.7	6.3
SSE	1.5	2.8	1.9	.5								6.7	5.9
S	1.6	3.3	3.0	.6								8.5	6.2
SSW	1.0	1.4	1.1	.5	.1							4.1	6.5
SW	.5	1.5	2.0	.5								4.4	7.1
WSW	.4	2.2	1.2	.4								4.2	6.3
W	1.1	2.5	3.0	.2								6.8	6.3
WNW	1.2	2.2	2.6	1.0	.1							7.2	7.2
NW	.1	1.1	1.2	1.1	.1							3.7	6.9
NNW	.4	.9	2.6	2.3								6.2	9.3
VARBL													
CALM												2.2	
	13.6	38.5	35.3	10.0	.4							100.0	6.5

TOTAL NUMBER OF OBSERVATIONS 810

CLIMATE CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/PAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

STATION 39 STATION NAME PHILPS-COLLINS/ALPENA MI YEARS 73-81 MONTH AUG

CLASS ALL WEATHER RANGE 2100-2500
MOON (L.G.T.)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.2	.9	.9	.1								2.1	6.7
NNE	.6	.6		.1								1.4	4.2
NE	1.1	.5	.5									2.1	4.5
ENE	.2	.6	.6									1.5	5.8
E	1.1	.6	.2									1.9	5.7
ESE	.9	.7	.1									1.7	4.0
SE	2.7	3.1	1.2	.5								7.5	4.9
SSE	3.6	4.6	1.1	.5								9.8	4.7
S	4.4	1.6	2.5	.5								14.6	4.8
SSW	2.7	1.6	1.2									5.6	4.2
SW	2.0	3.7	.5	.1								6.3	4.5
WSW	2.2	3.0	.6									5.8	4.3
W	1.2	3.1	.9									6.2	4.4
WNW	1.7	3.8	1.9	.6								8.0	5.7
NW	1.0	2.0	1.9	.5	.1							5.4	6.8
NNW	.5	1.0	1.0	.1								2.6	6.0
VARBL													
CALM												17.7	
	27.2	36.9	15.1	3.1	.1							100.0	4.1

TOTAL NUMBER OF OBSERVATIONS 810

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

170390
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

AUG
MONTH

ALL WEATHER

CLASS

ALL

ROUND (L.S.V.)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.6	1.0	1.7	.8	.0							4.1	7.7
NNE	.3	.7	.9	.2								2.2	6.7
NE	.4	1.1	.9	.2								2.7	6.5
ENE	.5	.8	1.0	.0								2.2	6.4
E	.6	.9	1.9	.2	.0							3.6	6.9
ESE	.4	1.5	2.9	.8								5.6	7.6
SE	1.1	2.1	3.1	.8								7.0	6.9
SSE	1.4	2.1	1.3	.4								5.2	5.6
S	2.1	3.7	2.9	1.1	.0							9.7	6.3
SSW	1.1	2.3	1.7	.7	.0							5.8	6.5
SW	1.7	3.2	2.8	.6	.0							8.3	6.2
WSW	1.7	3.2	2.5	.7								8.1	6.0
W	2.4	4.0	3.2	.9	.0							10.5	6.0
WNW	1.5	2.6	2.3	1.2	.1							7.7	6.9
NW	.6	1.4	1.6	1.1	.0							4.7	7.8
NNW	.3	.9	1.3	1.0	.0							3.6	8.2
VARBL													
CALM												9.2	
	16.6	31.4	32.0	10.6	.3							100.0	6.0

TOTAL NUMBER OF OBSERVATIONS

6458

CLIMATE CLIMATOLOGY BRANCH
USAFETAC
WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION 0390 PHILIPS-COLLINS/ALPENA MI 73-81 YEARS SFP
STATION NAME ALL WEATHER 0000-0200
CLASS MOON (L.S.T.)
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.8	1.0	1.7	.1								3.6	6.0
NNE	.4	.6	.4	.8								1.8	6.6
NE	.4	.4	.4	.3								1.4	6.9
ENE	.3	.6	.6	.1								1.7	6.7
E		.4	.6	.1								1.5	6.8
ESE	.4	.5	.9	.1								1.9	6.9
SE	1.3	.8	.8	.6	.1							3.6	6.6
SSE	1.2	1.9	.6	.1								3.8	4.6
S	3.6	3.7	2.4	.9								10.6	5.4
SSW	2.7	1.5	2.0	.3								6.5	5.0
SW	1.8	3.2	2.7	.6								8.3	6.0
WSW	3.5	4.9	1.8	.8								10.1	4.7
W	3.6	7.8	2.7	.1								14.2	5.0
WNW	4.4	4.6	2.3	.5	.3							9.8	6.0
NW	.8	1.3	2.2	.8								5.0	7.0
NNW	.4	.5	.6	.8								1.9	6.8
VARBL													
CALM												14.2	
	23.0	34.1	22.8	5.9	.8							100.0	4.8

TOTAL NUMBER OF OBSERVATIONS 782

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION 0590 PHELPS-COLLINS/ALPENA MI 73-81 SEP
STATION NAME YEAR MONTH
ALL WEATHER
CLASS
CONDITION
0500-0500
MOON (L.G.T.)

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.6	.8	1.0	.1								2.6	6.1
NNE	.6	.4	1.1	.1								2.3	6.6
NE	.9	1.1	1.0	.1								3.2	5.3
ENE	.5	.3		.1								.9	4.1
E	.5	.4	.4	.5								1.8	7.1
ESE	.8	.6	.3	.5								2.2	6.4
SE	.3	1.1	1.0	1.0	.1							3.6	8.8
SSE	.9	1.3	.5									2.7	4.7
S	2.7	3.7	2.7	.9								10.0	5.8
SSW	1.4	3.2	1.8	.6		.1						7.2	6.2
SW	2.9	3.7	2.0	.4								9.1	5.2
WSW	2.6	3.6	2.7									8.8	5.3
W	5.0	7.0	2.0	.6								14.7	4.9
WNW	.8	4.1	2.4	.6								7.9	6.4
NW	1.0	1.8	1.7	.6	.1							5.2	6.6
NNW	1.1	.6	1.1	.5								3.4	6.1
VARBL													
CALM												14.6	
	22.6	33.7	21.8	6.9	.3	.1						100.0	5.0

TOTAL NUMBER OF OBSERVATIONS 793

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
ATMOSPHERIC WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION 1639 PHELPS-COLLINS/ALPENA MI STATION NAME 73-81 YEARS SEP
DATE 0600-0800
TIME (L.S.T.)
ALL WEATHER
CLAS
CONDITION

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.4	1.1	1.9	.8								4.4	7.4
NNE	.4	.8	.8	.1								2.0	6.1
NE	.3	.8	.9	.3								2.1	7.0
ENE	.1	.4	.5									1.0	6.4
E		.4	.8	.5								1.6	9.2
ESE	.3	.3	.8	1.1								2.4	9.8
SE	.3	.9	1.3	.5								2.9	7.6
SSE	.8	.8	.6	.1								2.3	5.6
S	2.0	2.2	2.7	1.1	.1							8.8	6.6
SSW	1.5	2.7	1.9	.4								6.4	5.9
SW	2.7	4.0	1.2	.6								10.5	5.7
WSW	2.3	4.0	2.8	.1								9.2	5.6
W	1.8	6.7	2.9	.8								13.8	5.8
WNW	2.5	2.1	2.8	.5								10.9	5.7
NW	2.5	1.4	2.3	1.3								7.4	6.9
NNW	.8	1.1	.8	.8								2.7	6.5
VARB													
CALM												11.5	
	12.8	13.2	26.6	8.6	.1							100.0	5.5

TOTAL NUMBER OF OBSERVATIONS 192

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION PHILIPS-COLLINS/ALPENA MI YEAR 73-81 MONTH SEP
 ALL WEATHER
 0000-1100
 (HRS U.S.T.)

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.4	1.7	2.6	1.6								6.2	8.2
NNE	.5	.8	2.1	.6								4.0	7.5
NE	.3	1.0	1.2	.8								3.2	8.2
ENE	.1	.6	.5	.5								1.6	7.9
E	.6	.3	1.1	.6	.1							2.7	7.7
ESE	.1	.6	2.5	1.0	.1							4.4	9.1
SE	.1	1.3	1.2	1.0								3.6	8.3
SSE	.1	1.2	1.4	.6	.1							3.5	8.0
S	.4	1.6	3.1	1.6								6.9	8.4
SSW	.6	1.7	2.2	1.6								6.1	8.0
SW	.9	3.4	3.6	2.1								10.0	7.7
WSW	1.0	2.9	6.0	1.8	.1							11.8	7.6
W	.8	2.2	4.2	2.6								9.7	8.3
WNW	.4	2.1	6.4	2.1	.1							11.0	8.5
NW	.8	1.9	2.6	2.6	.5							8.4	9.2
NNW	.5	1.7	1.9	1.3	.1							5.6	8.1
VARBL													
CALM												1.2	
	7.8	25.2	42.2	22.4	1.3							100.0	8.1

TOTAL NUMBER OF OBSERVATIONS 171

CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

1200-1200 PHILIPS-COLLINS/ALPENA MI 75-81
STATION NAME CLASS
ALL WEATHER
CLASS
OBSERVER
SEP 1200-1200
MONTH (L.C.T.)

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-14	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.3	2.5	8.7	2.3								9.8	8.6
NNE	.1	1.1	1.8	.6								3.3	7.8
NE	.3	.9	.8	.9								2.8	8.0
NNE		.1	.6	.9								1.6	10.5
E		.6	1.3	1.1	.1							3.1	9.8
ESE	.1	.8	3.8	1.9								6.6	9.3
SE	.3	.8	2.8	1.3								6.3	9.2
ESE	.3	1.3	2.0	.6	.1							4.3	7.9
S	.5	1.0	9.2	1.8								7.2	8.6
SSW	.1	1.0	1.6	2.5								5.3	10.0
SW	.1	1.8	3.8	2.2	.1							7.2	9.3
WSW	.1	1.8	8.1	2.8	.1							8.5	9.8
W	.6	1.5	3.8	3.0	.6							9.3	9.5
WW	.1	1.5	3.3	4.8	.5							10.8	10.0
WNW		.8	2.3	5.3	.3							8.6	11.1
NNW	.3	.6	2.8	2.5		.1						6.5	9.8
VARI													
CALM												1.1	
	2.8	17.7	62.8	38.0	1.6	.1						100.0	9.3

TOTAL NUMBER OF OBSERVATIONS 789

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

176390
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEAR

SEP
MONTH

ALL WEATHER
CLASS

1500-1700
HOURS (L.S.T.)

CONDITION

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.3	1.5	5.9	3.1	.1							10.9	9.1
NNE	.3	.3	1.3	.8								2.6	8.3
NE	.1	1.0	1.8	.5								3.5	7.6
ENE	.3	.6	1.5	.6	.1							3.2	8.7
E	.1	1.0	2.2	1.4	.1							4.9	9.3
ESE		1.4	5.1	3.2								9.7	9.4
SE	.1	2.2	4.3	1.7								8.3	8.4
SSE		.3	1.2	.6								2.0	9.3
S	.3	.6	2.9	2.7								9.5	9.9
SSW	.4	.4	1.8	1.3	.1							4.3	8.9
SW	.1	.9	2.8	2.3								6.1	9.6
WSW	.3	1.0	2.8	1.9								6.0	9.2
W		1.2	3.5	2.8	.1							7.5	10.0
WNW		1.7	2.9	3.6	.1							8.3	9.7
NW	.4	1.4	2.9	4.5								9.2	9.8
NNW		.4	2.8	2.8	.3							6.3	10.6
VARB												.6	
CALM													
	2.6	16.2	45.8	33.8	1.0							100.0	9.3

TOTAL NUMBER OF OBSERVATIONS 782

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
ALB. WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

0394 STATION NAME PHILIPS-COLLINS/ALPENA #1 YEAR 73-81 MONTH SEP
 ALL WEATHER CLASS 1800-2000
 CONDITION NOON (L.S.T.)

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 53	≥ 54	%	MEAN WIND SPEED
N	.5	2.0	2.6	.1								5.2	6.7
NNE	.5	1.0	1.1	.3								2.9	6.3
NE	.6	1.5	.8	.1								2.7	5.0
ENE	.6	2.0	.6	.1								3.4	5.7
E	.9	1.1	.5	.5								5.1	6.1
ESE	.9	2.8	2.6	.5	.1							6.5	6.9
SE	.9	2.9	3.1									6.9	6.3
SSE	1.1	2.8	2.8									6.8	5.8
S	2.3	3.7	3.8	.3								10.1	5.9
SSW	.1	2.6	.6	.6								9.0	6.9
SW	.9	2.7	1.8	.6								5.6	6.2
WSW	1.0	2.0	.9	.5								8.5	6.0
W	1.5	8.0	2.8	1.1								9.1	6.8
WNW	1.2	9.0	3.2	.9								9.6	6.8
NW	.6	3.7	2.8	2.0								8.8	7.5
NNW	.8	1.5	2.0	1.5	.1							6.0	8.0
VARB.													
CALM												5.4	
	18.9	80.1	30.1	9.3	.3							100.0	6.1

TOTAL NUMBER OF OBSERVATIONS 784

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

170390
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

SEP
MONTH

ALL WEATHER
CLASS

2100-2300
HOURS (L.S.T.)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 53	≥ 54	%	MEAN WIND SPEED
N	.9	.8	.9	.1								2.7	5.6
NNE	.9	.6	.8	.3								2.6	5.6
NE	.3	1.1	.6									2.0	5.6
ENE	.1	.8	.6									1.5	6.2
E	.5	1.0	.6	.4								2.6	6.4
ESE	.3	.9	1.1	.1								2.4	6.7
SE	.4	1.4	1.3	.4								3.4	6.7
SSE	.8	2.7	.6	.1								4.2	4.9
S	5.6	6.0	5.1	.4	.3							13.3	5.4
SSW	1.5	2.6	1.4	.6								6.1	6.0
SW	1.7	2.9	1.3	.9								6.8	5.9
WSW	2.4	3.4	1.1	.1								7.1	4.7
W	3.2	8.5	1.9	.3								13.9	4.9
WNW	1.1	4.1	2.3	.4								7.9	6.0
NW	1.1	2.6	2.2	1.5								7.4	7.0
NNW	.6	1.0	1.3	.6								3.6	7.3
VARBL													
CALM												12.5	
	19.4	40.4	21.2	6.2	.3							100.0	5.0

TOTAL NUMBER OF OBSERVATIONS 784

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

STATION 06590 PHELPS-COLLINS/ALPENA MI 73-81 YEARS SEP MONTH

ALL WEATHER
CLASS

ALL
MOON (L.E.T.)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.5	1.4	2.6	1.0	.0							5.7	7.8
NNE	.5	.7	1.1	.8								2.7	6.9
NE	.4	1.0	.9	.8								2.6	6.8
NNE	.5	.7	.6	.5	.0							1.9	7.2
E	.3	.7	.9	.7	.0							2.1	8.0
ESE	.4	.9	2.1	1.1	.0							4.5	8.4
SE	.4	1.4	1.9	.8	.0							4.6	7.7
SSE	.6	1.5	1.2	.3	.0							3.7	6.2
S	1.4	2.4	3.1	1.2	.0							9.2	6.7
SSW	1.1	2.0	1.7	1.0	.0	.0						5.7	1.0
SW	1.4	2.8	2.6	1.2	.0							7.9	6.8
WSW	1.6	3.0	2.7	.9	.0							8.2	6.5
W	2.3	4.9	2.9	1.8	.1							11.5	6.4
WNW	1.1	3.4	3.2	1.6	.1							9.5	7.4
NW	.4	1.4	2.3	2.3	.1							7.5	8.5
NNW	.5	.9	1.7	1.3	.1	.0						8.5	8.4
VARB													
CALM												7.6	
	14.2	30.1	31.5	15.9	.7	.0						100.0	6.6

TOTAL NUMBER OF OBSERVATIONS 6267

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION 1320 STATION NAME PHELPS-COLLINS/ALPENA MI YEAR 73-81 MONTH OCT
CLASS ALL WEATHER
CONDITION

0000-0200
HOURS (L.S.T.)

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.0	1.3	1.1	.8								4.0	7.1
NNE	.3	.4	1.1	.1								1.9	7.3
NE	.4	.6	.5	.4								1.9	6.9
ENE	.1	.3	.3	.1								.8	6.5
E	.3	.3	.1	.5								1.1	6.1
ESE	.1	.1	.4	.9	.1							1.6	11.1
SE	.8	1.6	1.1	.5								4.0	6.5
SSE	1.0	1.8	1.4	.5								4.6	5.9
S	2.3	4.6	3.8	1.8								12.4	6.4
SSW	1.3	2.3	2.1	.4								6.0	6.2
SW	1.6	3.0	1.9	.9								7.4	6.2
WSW	2.0	3.5	1.8	.8								8.0	5.8
W	2.4	7.6	3.5	.8								14.3	5.8
WNW	1.4	4.4	3.6	1.9								11.3	7.1
NW	1.0	1.3	1.0	1.0								4.3	7.1
NNW	1.0	.6	1.3	.5								3.4	6.5
VARBL													
CALM												13.3	
	16.6	33.5	24.9	11.6	.1							100.0	5.6

TOTAL NUMBER OF OBSERVATIONS 800

CLIMATOLOGY BRANCH
 WLTAC
 AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
 DIRECTION AND SPEED
 (FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION 39 PHELPS-COLLINS/ALPENA MI STATION NAME 73-81 YEARS OCI
 CLASS ALL WEATHER SPEED (K.T.) 0300-0500
 CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.4	.6	.6	.5								2.1	7.7
NNE	.8	.1	.8	.4								2.0	6.6
NE	.6	.9	.1	.6								2.3	6.7
ENE	.5		.5	.5								1.5	7.8
E	.4	.1										.5	3.0
ESE	.5	.3	.5	.4	.3							1.7	8.8
SE	1.0	.6	.9	.1								2.6	6.0
SSE	1.5	2.0	1.0	.5								3.0	5.7
S	2.9	3.9	4.1	.9								11.8	6.2
SSW	1.4	3.4	2.4	.3								7.4	5.8
SW	1.6	2.4	2.8	.5								7.3	6.2
WSW	1.6	2.8	2.1	.9								7.4	6.1
W	2.6	7.3	3.3	.6	.1							13.9	5.6
WNW	1.0	4.6	4.6	.9								11.2	6.7
NW	1.1	2.1	2.3	.5								5.0	6.4
NNW	.6	.8	.6	.6								2.6	7.2
VARBL													
CALM												14.4	
	18.6	31.9	26.6	8.2	.4							106.0	5.3

TOTAL NUMBER OF OBSERVATIONS 797

1147

CLIMATE CLIMATOLOGY BRANCH
USAFETAC
WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

59

PHELPS-COLLINS/ALPENA MI

73-81

0GT

STATION

STATION NAME

YEARS

MONTH

ALL WEATHER

0600-1800

CLASS

HOURS (L.S.T.)

CONDITION

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.5		1.1	.6								2.1	7.2
NNE	.2	.5	1.0	.2								2.0	7.9
NE	.4	.4	.4	.2								1.3	6.5
ENE	.4	.4	.2	.5	.1							1.6	6.2
E	.5	.6	.7	.1	.2							2.2	7.1
ESE	.1	.2	.4	.4	.1	.1						1.3	11.5
SE	.4	.7	1.3	.4								2.8	7.1
SSE	2.0	2.0	1.5	.2								5.6	5.4
S	1.5	4.0	4.2	2.5								12.5	7.2
SSW	2.0	3.6	2.6									9.1	5.4
SW	.9	2.0	2.3	1.1								5.2	7.0
WSW	1.3	4.5	2.8	1.3								13.0	6.7
W	2.1	4.3	5.1	.2	.2							12.0	6.3
WNW	1.6	5.0	3.6	.9	.1							11.2	6.4
NW	.7	2.5	2.3	1.0	.1							6.5	7.5
NNW	.5	.5	.9	1.0								2.8	8.1
VARBL													
CALM												11.6	
	15.3	31.0	30.3	10.7	1.0	.1						100.0	6.0

TOTAL NUMBER OF OBSERVATIONS

816

CLIMATE BRANCH
 AFMTC
 WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

STATION 47 PHILIPS-COLLINS/ALPENA MI 73-81 YEARS 801
STATION NAME
 ALL WEATHER
CLASS
 CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.2	.4	2.1	1.9	.5							5.6	10.0
NNE	.1	.1	1.1	.9								2.2	9.2
NE	.1	1.0	1.0	1.2	.1							3.5	9.1
ENE		.5	.5	.4								2.1	8.8
E		.7	1.0	.5								2.2	9.2
ESE	.1	1.0	1.6	1.2								4.0	8.5
SE	1.0	1.1	1.5	1.6	.1							5.3	7.9
SSE	.5	1.4	1.6	1.0	.1							4.6	8.2
S	.5	2.5	6.7	4.1								13.9	8.8
SSW	.1	1.7	3.5	1.2								6.6	8.2
SW	.5	1.4	4.0	1.2	.2							7.3	8.6
WSW	1.0	3.1	3.1	2.1	.1							9.4	7.8
W	.2	2.2	6.1	1.1								9.7	8.0
WNW	.2	1.9	4.2	2.8	.5							9.7	9.6
NW	.2	1.7	2.4	5.0	.2							7.5	9.6
NNW	.9	.9	1.0	2.4	.9							5.0	10.3
VARBL													
CALM												2.4	
	5.4	22.0	41.2	26.6	2.8							100.0	8.6

TOTAL NUMBER OF OBSERVATIONS 808

GENERAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION PH59 STATION NAME PHELPS-COLLINS/ALPENA MI YEARS 73-81 DATE 001
CLASS ALL WEATHER RANGE (L.S.T.) 1200-1400
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.2	1.1	2.5	3.1	.4							7.2	10.4
NNE		.6	1.2	.9								2.7	8.7
NE	.1	.4	.4	.7								1.6	9.2
ENE	.1	.5	.4	.4								1.4	7.5
E	.2	.5	1.6	1.0	.1							3.5	9.3
ESE	.2	1.4	2.1	2.6								6.8	8.9
SE	.1	.6	2.7	3.0								6.5	10.3
SSE	.2	1.1	1.5	.7	.1							3.6	8.2
S	.1	1.1	4.7	4.8								10.6	10.0
SSW		.7	3.0	1.7								5.5	9.4
SW		.2	3.1	2.4	.1							5.9	10.5
WSW	.2	1.2	3.6	2.9	.5							8.4	10.0
W		1.7	4.3	2.7								8.8	9.4
WNW		.9	3.1	4.6	.6							9.2	11.1
NW	.5	.4	3.3	4.6	.6							9.9	10.9
NNW	.2	.7	2.7	3.7	.4							7.8	10.6
VARBL													
CALM												.5	
	2.5	14.1	40.3	39.8	2.9							100.0	9.9

TOTAL NUMBER OF OBSERVATIONS 806

LOCAL CLIMATOLOGY BRANCH
 AFSTAC
 AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
 DIRECTION AND SPEED
 (FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION PHILPS-COLLINS/ALPENA MI 73-81 OCT
 STATION NAME ALL WEATHER 1500-1700
 CLASS CLAS GROUP (L.S.V.)
 CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 53	≥ 54	%	MEAN WIND SPEED
N	.2	1.0	4.9	3.6	.1							9.8	9.6
NNE	.4	1.0	.9	.6								2.8	7.3
NE	.1	.5	2.1	.7								3.9	8.7
ENE	.1	.9	.5	.2								1.7	6.8
E	.2	1.3	3.2	.4								5.1	7.7
ESE	.4	1.5	5.3	2.9								10.0	8.9
SE		1.5	3.8	2.0	.1							7.0	9.2
SSE		.1	1.6	1.1								2.8	10.2
S	.2	1.1	3.3	2.3	.6							7.6	9.9
SSW	.2	.4	2.0	1.1								4.3	9.5
SW	.2	1.0	2.7	1.7								5.6	9.1
WSW	.2	1.0	2.8	2.1	.1							6.2	9.4
W	.4	1.6	3.7	3.1	.2							8.9	9.8
WNW	.1	1.0	3.3	4.3	1.1							9.8	11.2
NW	.1	1.1	2.5	4.0	.5							8.2	10.8
NNW	.1	.6	2.7	2.7								6.1	10.1
VARBL													
CALM												.4	
	3.2	15.8	44.7	33.5	2.8							100.0	9.5

TOTAL NUMBER OF OBSERVATIONS 816

GENERAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION 139 STATION NAME PHELPS-COLLINS/ALPENA MI YEAR 73-81 MONTH OCT
DATE 1800-2000
HOURS (L.S.T.)

ALL WEATHER

CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.1	1.7	1.2	.6	.1							3.6	7.4
NNE	.5	.7	.7	.1								2.1	6.2
NE	.6	.9	.5	.1								2.1	5.8
ENE	1.0	.9	.4	.4								2.6	5.6
E	1.1	1.4	.2	.1								2.8	4.5
ESE	.4	3.1	.7	.5								5.2	5.9
SE	1.4	2.7	3.2	.9								8.1	6.5
SSE	.7	3.1	2.6	.9	.1							7.4	6.9
S	1.1	3.8	4.2	1.6	.1							10.8	7.4
SSW	.9	1.5	2.1	.5								4.9	7.1
SW	1.6	1.5	2.9	.7								6.8	6.6
WSW	.7	1.0	1.4	.7	.1							3.9	7.4
W	1.0	4.4	3.4	1.4								10.2	6.9
WNW	.9	3.2	4.1	2.3	.4							10.8	6.3
NW	.4	2.7	4.8	1.4								9.2	7.9
NNW	.1	.7	1.6	.7								3.2	8.4
VARBL													
CALM												6.1	
	12.9	33.2	34.0	12.9	.9							100.0	6.6

TOTAL NUMBER OF OBSERVATIONS 814

GLOBAL CLIMATOLOGY BRANCH
 AF/TAC
 AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
 DIRECTION AND SPEED
 (FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION PHILPS-COLLINS/ALPENA MI YEAR 73-81 DATE OCT
 STATION NAME PHILPS-COLLINS/ALPENA MI DATE 2100-2300
 ALL WEATHER
 CLASS
 CONDITION

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.2	.4	.6	1.2								4.7	8.5
NNE	.5	.6	.9	.5								2.4	7.3
NE	.7	.7	.8	.5								2.3	6.7
ENE	.6	.2	.2	.1								1.2	5.7
E	.1	.6	.4	.2								1.3	7.1
ESE	.6	.1	.2	.4								1.3	7.0
SE	1.0	1.1	1.3	.5								3.9	6.3
SSE	.9	3.2	1.7	1.5	.2							7.4	7.2
S	2.3	5.5	4.5	1.6	.1							14.0	6.6
SSW	.6	1.3	1.7	.6								4.3	7.0
SW	1.5	2.1	1.7	.7								5.7	6.4
WSW	1.5	3.2	1.2	.6								6.5	5.8
W	1.2	6.7	3.3	.9								12.1	6.3
WNW	.7	6.5	3.4	1.1								11.7	6.8
NW	1.0	4.6	3.4	1.2	.1							1.4	7.5
NNW	.1	.7	.7	.9								2.4	8.6
VARBL													
CALM												12.2	
	13.4	35.7	25.8	12.5	.5							100.0	6.9

TOTAL NUMBER OF OBSERVATIONS 819

JOURNAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

639
STATION

PHELPS-COLLINS/ALPENA MI

73-81

OCT
MONTH

ALL WEATHER
CLASS

ALL
MOON (L.S.T.)

ORIGIN

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.4	.4	1.8	1.5	.1							4.7	4.1
NNE	.3	.5	1.0	.5								2.3	7.6
NE	.4	.7	.7	.6	.0							2.3	7.5
ENE	.4	.4	.4	.3	.0							1.5	7.0
E	.4	.7	.9	.4	.0							2.4	7.3
ESE	.4	1.0	1.4	1.2	.1	.1						4.0	8.5
SE	.7	1.3	1.9	1.1	.0							5.0	7.7
SSE	.8	1.8	1.6	.8	.1							5.1	7.8
S	1.4	3.3	4.4	2.4	.1							11.7	7.7
SSW	.8	1.9	2.4	.8								5.9	7.1
SW	1.0	1.7	2.7	1.2	.0							6.5	7.5
WSW	1.1	2.5	2.3	1.4	.1							7.5	7.4
W	1.2	4.5	4.1	1.3	.1							11.2	7.0
WNW	.7	3.4	3.7	2.3	.3							10.6	8.2
NW	.6	1.8	2.7	2.1	.2							7.5	8.7
NNW	.4	1.7	1.4	1.6	.1							4.2	9.2
VARBL													
CALM												7.6	
	11.0	27.1	33.5	19.5	1.4	.0						100.0	7.2

TOTAL NUMBER OF OBSERVATIONS 6976

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION 126392 PHELPS-COLLINS/ALPENA MI 73-81 NOV
STATION NAME YEARS MONTH
ALL WEATHER
CLASS
CONDITION
0000-0200
SPEED (L.S.T.)

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.5	.4	1.8	.1								4.2	6.9
NNE	.4	.4	1.0	.3								2.0	6.9
NE	.5	1.0	.5	.5								2.6	6.6
ENE	.3	.1	.3	.5								1.2	8.6
E	.4	.3	.4	.3								1.3	8.3
ESE	.4	.9	1.0	.1								2.4	6.5
SE	.6	1.2	1.8	.4								4.0	6.9
SSE	.8	1.2	.8	.5	.1							3.3	7.0
S	1.5	4.2	4.5	1.8	.3							12.5	7.0
SSW	.8	4.4	2.0	.8								5.8	6.8
SW	.5	3.6	3.3	1.2	.3							8.8	7.5
WSW	.9	3.3	2.9	1.3		.1						8.6	7.3
W	1.8	5.1	5.8	1.3	.8							14.3	7.1
WNW	.9	3.5	3.7	.9								9.0	6.8
NW	.8	.8	2.0	1.8	.1							5.2	9.4
NNW	.4	1.0	2.0	1.5								5.0	8.4
VARBL													
CALM												10.6	
	11.8	30.1	33.9	12.8	1.2	.1						100.0	6.5

TOTAL NUMBER OF OBSERVATIONS 782

1151

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION 6390 PHELPS-COLLINS/ALPENA MI 73-81 NOV
STATION NAME YEARS MONTH
ALL WEATHER 0300-0500
CLASS HOUR (L.G.T.)
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.6	.9	1.0	.8								5.3	7.4
NNE	.3	.4	.8	.4								1.8	7.3
NE	.4	1.3	.5	.3								2.4	6.5
ENE	.1	.6	.6									1.4	6.5
E		.1	.9	.6								1.7	9.8
ESE	.3	.1	.6	.3								1.3	7.5
SE	.1	1.4	1.8	.8								4.1	8.4
SSE	1.0	1.5	1.1	.4								4.1	6.3
S	1.7	3.4	4.4	1.3	.5							11.3	7.3
SSW	.9	3.2	2.5	.5								7.1	6.2
SW	1.0	4.1	2.2	.5								7.8	6.1
WSW	.9	4.7	2.9	1.1								9.7	6.8
W	1.7	6.4	4.3	2.2	.4							14.9	7.2
WNW	1.5	4.1	4.1	1.3								10.9	6.6
NW	.4	1.7	1.1	1.9	.1							5.2	8.6
NNW	.8	1.0	.6	.8								3.2	7.3
VARBL													
CALM												10.0	
	11.6	34.8	29.6	13.0	1.0							100.0	6.3

TOTAL NUMBER OF OBSERVATIONS 787

NATIONAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION 439 STATION NAME PHELPS-COLLINS/ALPENA MI DATE 73-81 MONTH NOV
CLASS ALL WEATHER SPECIES (L.S.V.) 0600-0800
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.1	.3	1.4	1.5								3.3	10.0
NNE	.1	.4	1.0	.5								2.0	6.5
NE	.1	.4	.3	.6								1.4	8.6
ENE		.9	.8	.6								2.3	8.1
E	.1	.5	.5	.4								1.5	7.8
ESE	.5	.4	1.4	.4								2.7	7.6
SE	.9	.8	1.4	1.4	.1							4.6	8.1
SSE	1.5	1.5	.8	.1	.1							4.1	5.2
S	2.4	2.3	3.7	1.1	.4	.1						10.0	7.4
SSW	.8	2.4	2.0	.9								6.1	6.8
SW	1.2	2.1	3.4	1.1								10.9	6.5
WSW	.9	3.3	3.9	1.4								11.5	6.8
W	1.8	5.1	4.8	2.7	.1							14.8	7.8
WNW	.8	2.8	3.8	1.4								8.7	7.5
NW	.3	.8	1.9	2.2	.1							5.2	9.8
NNW		.0	.5	.8								1.9	9.8
VARBL												9.4	
CALM													
	11.5	29.8	31.6	17.1	.8	.1						100.0	6.8

TOTAL NUMBER OF OBSERVATIONS 789

1152

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

0039 STATION PHELPS-COLLINS/ALPENA MI 73-81 YEARS NOV
0900-1100 HOURS (L.A.T.)

ALL WEATHER

CLASS

CONDITION

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-14	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.4	.5	1.9	1.4								4.5	8.7
NNE		.4	.4	.5								1.3	8.9
NE		.3	1.1	.3								1.7	8.8
ENE	.1	.1	.5	.4	.1							1.3	10.0
E	.3	.1	.9	1.1	.3							2.7	10.2
ESE	.4	.1	1.5	1.0								3.1	9.1
SE	.1	1.0	1.0	.9	.4							3.4	9.8
SSE	.8	.8	.6	1.4								3.6	8.2
S	.8	3.7	3.7	1.9	.5							10.6	8.3
SSW		2.4	3.4	.8	.3	.3						7.2	8.6
SW	1.1	5.2	4.1	1.5	.1	.1						10.2	7.8
WSW	.5	4.3	6.4	2.6	.3							14.0	8.0
W	.6	3.4	4.9	3.7	.1							12.8	8.7
WNW	.6	1.9	3.8	2.7	.1							9.2	9.0
NW		1.3	2.3	2.3	.1							6.0	9.7
NNW	.5	.9	1.9	1.9	.5							5.5	10.2
VARBL													
CALM												3.1	
	6.0	24.8	38.6	24.4	2.8	.4						100.0	8.4

TOTAL NUMBER OF OBSERVATIONS 783

2
 NATIONAL CLIMATOLOGY BRANCH
 USAFETAC
 AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
 DIRECTION AND SPEED
 (FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION PHILIPS-COLLINS/ALPENA MI YEAR 73-81 NGV 1200-1400
 STATION NAME ALL WEATHER CLAS 1200-1400
 CLAS 1200-1400
 CLAS 1200-1400

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	2-55	%	MEAN WIND SPEED
N	.2	.2	3.3	2.4	.1							.67	9.6
NNE	.3	.6	.3	.6								.64	7.7
NE	.3	.3	1.0	.5								.21	8.6
ENE		.4	1.2	.3								.68	6.1
E	.1	.4	1.4	1.5	.4							.62	11.6
ESE	.3	.8	1.4	.5								.62	7.7
SE	.5	.6	1.3	2.1	.1							.64	11.6
SSE	.1	.8	1.3	.8	.6	.1						.67	11.6
S	.4	1.7	4.8	1.8	.1	.1						.65	8.9
SSW		.4	2.8	1.7		.5						.68	11.6
SW	.1	1.6	4.1	2.7	.5	.5						.65	11.6
WSW	.3	1.5	5.1	4.5	.5	.1						.66	11.6
W	.5	1.2	6.7	8.2	.3							.65	9.6
WNW	.3	.8	4.8	8.9	.3							.65	11.6
NW		.4	3.6	3.6	.3							.68	11.6
NNW		.6	2.1	5.0	.5							.64	11.6
VARBL													
CALM													
	1.3	12.3	44.3	35.3	3.2	1.2							8.9

TOTAL NUMBER OF OBSERVATIONS

11.6

JOINT CLIMATOLOGY BRANCH
USAFETAC
WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

39 STATION PHILLIPS-COLLINS/ALPENA MI 73-81 NOV
STATION NAME YEARS MONTHS
ALL WEATHER
CLASS
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.3	1.4	2.1	1.3								5.6	8.4
NNE	.3	.4	1.1	.3	.1	.1						2.7	6.3
NE	.5	.8	.4	.3								1.9	6.2
ENE	.3	.4	1.7	.3								2.6	8.0
E	.4	.6	2.3	1.1								4.5	8.5
ESE	.3	.6	3.3	.6								4.9	7.8
SE	.4	1.7	4.1	1.5								7.5	8.3
SSE		.9	1.5	.5								2.9	8.2
S	.5	2.8	2.6	1.9								7.8	8.6
SSW	.1	.9	1.9	1.5	.1							4.6	9.2
SW	.6	1.1	2.1	2.0								6.6	8.3
WSW	.5	1.4	4.5	2.8	.5	.1						10.3	9.4
W	.4	2.6	5.5	4.1	.3							12.8	9.2
WNW	.3	2.4	4.6	3.8	.8							11.9	9.7
NW	.1	.4	3.3	3.2	.3							7.3	10.9
NNW	.1	.3	2.0	2.4	.1							5.5	10.3
VARB													
CALM												.6	
	5.1	20.2	43.9	27.7	2.2	.3						100.0	8.9

TOTAL NUMBER OF OBSERVATIONS 783

CLIMATOLOGY BRANCH
AFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION NO. 39 STATION NAME PHILIPS-COLLINS/ALPENA MT YEARS 73-81 MONTH NOV
ALL WEATHER CLIM MONTHS (L.E.T.) 1800-2000
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.8	2.0	1.3	.9	.1							5.1	7.0
NNE	.4	.6	.4	.1								1.5	6.3
NE	.6	.5	1.4	.3	.1							2.9	7.2
ENE	.6	1.3	.4									2.3	4.9
E	.3	.9	.9	.6								2.7	8.0
ESE		.8	.8	.4								1.9	7.7
SE	.9	2.0	2.4	1.7								7.0	1.7
SSE	.6	2.4	1.3	.5								4.8	6.2
S	1.3	6.9	4.1	.5	.1							12.8	6.2
SSW	.1	2.0	1.8	.4	.1	.1						4.6	7.8
SW	.4	4.0	3.8	1.9								8.1	6.3
WSW	.5	3.4	2.5	2.2	.1							8.8	6.0
W	.5	4.5	4.3	1.5	.1							10.9	7.5
WNW	.5	2.7	3.6	2.3								9.0	8.3
NW	.3	1.8	2.7	1.3	.1							6.1	8.3
NNW	.1	1.1	1.6	1.7	.3	.1						5.1	10.1
VARBL													
CALM												6.2	
	7.9	35.0	33.3	16.2	1.1	.3						100.0	7.1

TOTAL NUMBER OF OBSERVATIONS 786

1154

U.S. NAVAL CLIMATOLOGY BRANCH
 SPECIAL
 U.S. WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

STATION 39 PHILPS-COLLINS/ALPENA MI 73-81 YEARS NCV
 STATION NAME ALL WEATHER MONTH 2100-2300
 CLASS MOVES (L.S.T.)
 CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.1	.9	.5	1.1								3.7	7.2
NNE	.5	.5	.4	.8								1.9	6.1
NE	.4	.5	.4	.1								1.9	6.4
ENE	.4	.6	.8	.5								2.3	7.7
E	.4		1.5									1.9	7.5
ESE	.3	.5	.9	.1								1.7	6.4
SE	.4	.4	1.6	.8								3.2	8.4
SSE	1.3	2.7	1.0	.6	.1							5.7	6.3
S	2.0	4.6	4.3	1.8								12.7	6.9
SSW	1.0	1.9	2.9	.9	.3							7.0	7.5
SW	1.1	2.4	3.8	1.5	.1							9.0	7.5
WSW	1.5	5.4	5.9	1.4	.1							10.8	7.0
W	1.4	5.1	3.8	1.8								12.0	7.0
WNW	.8	3.7	3.3	1.0	.1							8.2	7.2
NW	.5	1.4	2.4	.8	.3							5.1	8.4
NNW	.5	1.0	1.6	1.5	.3							4.9	8.9
VARBL													
CALM												8.1	
	13.4	28.9	33.7	14.7	1.3							100.0	6.7

TOTAL NUMBER OF OBSERVATIONS 792

LOCAL CLIMATOLOGY BRANCH
METAC
WEATHER SERVICE/MAL

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION PHELPS-COLLINS/ALPENA MI YEARS 73-81 MONTH NOV
STATION NAME ALL WEATHER CLASS ALL
CONDITION NOV (L.S.T.)

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.6	1.1	1.7	1.2	.0							4.5	8.2
NNE	.2	.5	.7	.4	.0	.0						1.9	7.8
NE	.4	.6	.8	.4	.0							2.1	7.3
ENE	.2	.6	.8	.3	.0							1.9	7.6
E	.2	.4	1.1	.7	.1							2.5	8.9
ESE	.3	.5	1.4	.4								2.6	7.7
SE	.5	1.1	1.9	1.2	.1							4.8	5.4
SSE	.8	1.5	1.1	.6	.1	.0						4.0	7.5
S	1.3	3.8	4.0	1.5	.2	.0						10.3	7.4
SSW	.5	2.0	2.4	.9	.1	.1						6.0	7.9
SW	.8	2.8	3.4	1.6	.1	.0						8.8	7.7
WSW	.8	3.5	4.0	2.2	.2	.0						10.1	8.0
W	1.1	4.2	5.0	2.7	.2							13.1	8.0
WNW	.7	2.6	3.9	2.3	.2							9.7	8.3
NW	.2	1.0	2.4	2.1	.2							6.0	9.6
NNW	.5	.9	1.6	1.7	.2	.0						4.6	9.6
VARBL													
CALM												6.1	
	8.8	27.0	36.1	20.1	1.7	.3						100.0	1.6

TOTAL NUMBER OF OBSERVATIONS 6278

GENERAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

STATION PHELPS-COLLINS/ALPENA MI YEARS 73-81 DEC 0000-0200
STATION NAME ALL WEATHER CLASS 0000-0200
COBITION 0000-0200
HOURS (L.G.T.)

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.2	1.1	1.5	1.0	.1							4.2	8.6
NNE	.5	.5	1.4	.5								2.9	7.7
NE	.1	1.1	.4	.1								1.7	6.4
ENE	.4	.5	.9	.1								1.9	6.8
E		.4	.9	.9								2.1	9.2
ESE	.2	1.0	.5	.4								2.1	7.0
SE	.1	.6	1.9	1.5								4.1	9.0
SSE	.2	1.2	1.4	1.1								4.0	4.3
S	1.7	4.5	4.1	1.4								11.7	6.8
SSW	.7	3.6	3.4	.6								8.4	6.8
SW	.9	4.0	4.2	1.0	.1							10.2	7.1
WSW	.5	5.1	4.7	1.0								11.3	6.9
W	1.6	5.1	4.1	.6	.1	.2						11.8	6.8
WNW	.6	3.0	3.4	2.0	.2							9.2	8.3
NW	.4	1.4	2.2	3.0	.1							7.1	9.4
NNW	.4	.5	.6	1.0	.1							2.6	8.9
VARBL													
CALM												4.1	
	8.7	33.7	35.5	16.2	.9	.2						100.0	7.2

TOTAL NUMBER OF OBSERVATIONS 802

NAVAL CLIMATOLOGY BRANCH
 AFETAC
 WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

STATION 39 STATION NAME PHELPS-COLLINS/ALPENA MI YEARS 73-81 MONTH DEC
 ALL WEATHER CLASS 0300-0500
 CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.9	1.1	.8	.8	.1							3.6	7.3
NNE	.4	.4	1.3	.5	.1							3.0	7.9
NE	.5	.6	1.1	.1								2.1	7.0
ENE	.1	.4	.8	.1								1.4	7.9
E	.3	.3	.6	.4								1.5	7.7
ESE	.5	.9	.5	1.4								3.3	8.1
SE	.5	.4	1.1	1.1								3.6	8.1
SSE	.6	1.6	2.0	.6								4.9	7.0
S	.5	2.4	5.4	2.3								10.6	7.9
SSW	1.0	3.1	2.5	1.1								7.8	6.7
SW	1.1	4.8	2.5	1.9								10.3	6.9
WSW	1.5	5.7	4.7	.8								12.3	6.6
W	2.5	4.4	5.4	.8	.1							13.2	6.4
WNW	1.4	3.1	2.6	1.9								9.1	7.3
NW	.4	.6	1.6	2.4	.1							5.2	10.0
NNW	.1	1.5	.6	1.5								3.8	8.8
VARBL													
CALM												4.3	
	12.2	31.4	33.6	17.6	.5							100.0	7.0

TOTAL NUMBER OF OBSERVATIONS 795

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

7.539
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

DEC
MONTH

ALL WEATHER

CLASS

0600-0800
HOURS (L.S.T.)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.4	.7	.6	1.5	.9							3.5	10.0
NNE	.1	.7	1.0	1.0								2.9	8.7
NE	.2	.4	1.5	.2	.1							2.4	8.7
ENE	.1	.1	.4	.5								1.1	9.4
E	.4	.1	.5	1.7								2.7	10.3
ESE	.1	1.0	.4	1.3								2.9	9.0
SE	.2	.7	1.6	1.2								3.8	8.6
SSE	.9	1.1	1.5	.5								5.9	6.6
S	1.0	4.5	4.5	2.8								12.8	7.6
SSW	1.0	2.3	3.2	.7								7.2	6.9
SW	1.6	4.8	3.1	1.1								13.5	6.7
WSW	1.1	5.9	2.6	1.0								8.6	6.7
W	1.5	6.0	5.3	.9								15.6	6.6
WNW	1.1	2.7	2.2	1.2								7.2	7.2
NW	.7	.7	1.1	2.2	.5							5.3	10.2
NNW	.2	.6	1.5	2.3								4.6	10.2
VARBL													
CALM												7.1	
	10.6	30.4	30.7	20.2	1.0							100.0	7.4

TOTAL NUMBER OF OBSERVATIONS

818

GLOBAL CLIMATOLOGY BRANCH
AFETAC
AIR WEATHER SERVICE/MAL

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

49 STATION PHELPS-COLLINS/ALPENA MI 73-81 YEARS DEC MONTH

ALL WEATHER
CLASS

0900-1100
HOURS (L.S.T.)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.6	1.4	1.9	1.7	.2	.1						6.0	9.0
NNE	.9	.2	1.0	.4	.1							2.6	7.4
NE	.4	.1	1.1	.7	.5							2.9	10.5
ENE	.4	.1	.5	.7								1.7	9.5
E	.2		.1	1.1								1.5	11.2
ESE	.1	.2	.5	1.7								2.6	11.2
SE	.2	.5	1.0	1.2								3.0	9.3
SSE	.1	1.5	1.7	1.2								4.6	8.5
S	1.0	4.5	5.5	3.1								14.1	7.4
SSW	.7	2.0	2.4	1.5								6.6	7.6
SW	1.0	2.7	3.6	1.6	.2							9.2	7.8
WSW	.6	3.9	4.6	1.2	.2							10.6	7.7
W	1.1	4.5	4.7	1.7								12.1	1.1
WNW	.5	2.4	4.2	1.6								8.7	7.8
NW	.5	1.2	1.1	1.7	.4							5.0	9.6
NNW	.2	.5	.7	2.6	.6							4.7	11.9
VARBL													
CALM												4.0	
	8.7	29.8	34.8	24.2	2.4	.1						100.0	8.1

TOTAL NUMBER OF OBSERVATIONS 802

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

39 STATION PHELPS-COLLINS/ALPENA MI 73-81 YEARS DEC
STATION NAME CLASS MONTHS (L.S.V.)

ALL WEATHER

CLASS

CONDITION

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.5	.7	1.4	2.0	.4	.1						5.1	10.8
NNE	.2	.5	1.0	1.0								2.7	8.5
NE	.2	.7	.6	1.5	.1							3.2	9.6
ENE	.2	.7	.4	.5	.2							2.1	8.7
E		.5	.4	1.2								2.1	10.6
ESE	.1	.5	.5	1.5	.1							2.7	10.9
SE	.2	.7	.9	1.7								3.6	9.8
SSE	.6	1.0	2.3	1.0	.1							5.1	8.3
S	.1	2.1	4.1	3.2								9.5	9.3
SSW	.1	.7	2.7	1.9	.1							5.6	9.7
SW	.2	1.6	4.2	2.3	.2							8.6	9.2
WSW	.1	2.7	4.6	4.1	.5	.1						12.1	9.8
W	.4	3.0	5.9	4.2	.2							13.7	8.9
WNW	.2	1.1	4.0	2.3	.1							7.8	9.4
NW	.2	.5	3.5	2.8	.5							7.5	10.8
NNW	.6	.5	1.9	3.7	.6	.1						7.4	11.2
VARBL													
CALM												1.2	
	4.3	17.7	38.1	34.9	3.3	.4						100.0	9.6

TOTAL NUMBER OF OBSERVATIONS 810

CLIMATE CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAL

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION 039 PHELPS-COLLINS/ALPENA MI 73-81 DEC
STATION NAME YEARS MONTH
CLASS ALL WEATHER 1500-1700
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.4	1.9	1.5	2.0		.2						6.0	9.2
NNE	.1	1.0	1.4	.6	.2							3.4	9.3
NE	.5	.4	.5	.6	.1							2.1	8.4
ENE	.4	.5	.1	.6	.1							1.7	8.9
E	.7	.7	1.0	1.0	.1							3.6	8.2
ESE	.2	1.0	.7	1.1								3.1	8.5
SE	.2	1.0	1.6	1.1								4.0	8.4
SSE	.6	1.0	1.9	1.1								4.6	7.8
S	.9	2.1	4.7	2.5								10.2	8.5
SSW	.1	1.4	3.0	.7								5.2	8.3
SW	.6	2.0	3.0	1.5	.1							7.2	8.0
WSW	.1	3.0	4.1	2.5	.1							9.8	8.6
W	.6	3.6	4.5	3.7	.2							12.7	8.7
WNW	.5	2.5	4.5	3.1	.2							10.8	9.0
NW	.4	2.1	3.0	3.0	.5	.1						9.1	9.7
NNW	.2	.6	1.6	3.1	.1	.1						5.8	11.0
VARBL													
CALM												.7	
	6.7	24.7	37.0	28.3	2.0	.5						100.0	8.8

TOTAL NUMBER OF OBSERVATIONS 805

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

1-0390
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-01
YEAR

DEC
MONTH

ALL WEATHER
CLASS

1800-2400
HOURS (L.S.T.)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 53	≥ 54	%	MEAN WIND SPEED
N	.7	1.0	1.7	.9								4.3	7.1
NNE	.5	.6	.4	.6	.2							2.3	8.8
NE	.6	.7	.6	.9								2.8	7.8
ENE	.2	.2	.2	.2								1.0	7.0
E	.4	.9	.6	.2		.1						2.2	7.3
ESE	.2	.5	.9	.9	.1							2.6	9.9
SE	.4	1.5	1.0	1.4								4.2	8.2
SSE	.6	2.8	2.6	1.0								7.0	7.0
S	1.2	3.7	4.4	1.5								10.9	7.0
SSW	.6	3.2	2.7	.6								7.2	6.9
SW	.6	2.7	3.1	.7	.1							7.3	7.1
WSW	1.1	3.8	3.2	1.5	.4							10.0	7.8
W	1.0	3.9	5.5	1.2								11.7	7.1
WNW	1.4	3.8	3.9	2.0	.2							11.3	7.5
NW	.4	1.5	2.6	2.5	.6							7.5	9.9
NNW	.4	.6	1.0	1.2								3.2	9.1
VARBL													
CALM												4.4	
	10.4	31.6	34.5	17.3	1.7	.1						100.0	7.3

TOTAL NUMBER OF OBSERVATIONS

811

CLIMATE CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

STATION 19 PHELPS-COLLINS/ALPENA MI STATION NAME 73-81 YEARS

ALL WEATHER

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.4	.6	1.5	.7								1.2	8.3
NNE	.1	.4	1.0	1.0								2.5	9.5
NE		.4	.4	.6	.1							1.5	9.6
ENE	.2	.5	.7	.4								1.3	7.7
E	.1	.4	.6	.2	.1							1.5	8.3
ESE	.1		1.1	1.1	.1							2.5	10.9
SE	.7	1.0	2.0	1.2								4.9	7.9
SSE	.6	2.0	1.6	.6								4.8	6.7
S	1.2	3.0	4.6	1.5								10.2	7.0
SSW	.6	3.5	3.2	1.1								9.4	6.9
SW	.9	3.0	5.1	1.2	.1							10.2	7.6
WSW	.9	3.4	3.5	1.2								11.0	6.7
W	1.4	6.2	4.7	.6								12.8	6.3
WNW	.5	3.3	4.1	1.4	.5							9.7	8.1
NW	.5	1.0	3.0	2.0	.4							6.8	9.5
NNW	.7	.1	.4	1.7		.1						3.1	10.0
VARBL													
CALM												5.1	
	9.4	30.6	37.2	16.6	1.4	.1						100.0	7.4

TOTAL NUMBER OF OBSERVATIONS 811

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAL

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

39
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

DEC
MONTH

ALL WEATHER
CLASS

ALL
WINDS (L.S.T.)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.5	1.1	1.3	1.3	.2	.1						4.5	8.9
NNE	.4	.5	1.0	.7	.1							2.8	6.5
NE	.5	.6	.8	.6	.1							2.4	6.6
ENE	.3	.4	.5	.4	.0							1.6	6.3
E	.3	.4	.6	.9	.0	.0						2.2	9.1
ESE	.2	.5	.6	1.2	.0							2.7	9.4
SE	.3	.9	1.4	1.3								3.9	8.6
SSE	.5	1.5	1.9	.9	.0							4.9	7.5
S	1.0	3.3	4.7	2.3								11.2	7.7
SSW	.6	2.5	2.9	1.0	.0							7.0	7.4
SW	.9	3.2	3.6	1.4	.1							9.2	7.5
WSW	.7	4.2	4.0	1.7	.2	.0						10.7	7.6
W	1.3	4.6	5.0	1.7	.1	.0						12.7	7.5
WNW	.8	2.7	3.6	1.9	.2							9.2	8.1
NW	.4	1.1	2.3	2.4	.4	.0						6.7	9.9
NNW	.4	.6	1.0	2.2	.2	.0						4.4	10.4
VARBL													
CALM												4.0	
	4.8	28.3	35.2	21.9	1.6	.2						100.0	7.8

TOTAL NUMBER OF OBSERVATIONS

6454

CLIMATOLOGY BRANCH
 AFETAC
 WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
 DIRECTION AND SPEED
 (FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION PHILPS-COLLINS/ALPENA MI YEARS 73-81 ALL MONTHS
 ALL WEATHER
 CLAS
 ALL
 WINDS (L.S.V.)
 CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.6	1.2	2.2	1.7	.1	.0	.0					5.8	8.7
NNE	.4	.8	1.1	.5	.0	.0	.0					2.9	7.7
NE	.4	.8	.9	.5	.0	.0						2.6	7.3
ENE	.3	.6	.7	.4	.0	.0	.0					2.0	7.6
E	.4	.8	1.5	.8	.1	.0						3.5	8.3
ESE	.4	1.2	2.4	1.3	.1	.0						5.5	8.4
SE	.7	1.6	2.2	1.2	.0	.0						5.7	7.7
SSE	.4	1.0	1.3	.6	.1	.0						4.3	6.0
S	1.3	2.3	3.1	1.5	.1	.0						8.8	7.3
SSW	.7	1.8	1.9	.8	.0	.0						5.3	7.3
SW	1.7	2.3	2.5	1.0	.1	.0	.0					6.9	7.2
WSW	1.1	2.7	2.7	1.2	.1	.0						7.8	7.2
W	1.6	4.2	4.0	1.8	.1	.0						11.6	7.2
WNW	1.0	2.8	3.4	2.3	.2	.0						9.8	8.3
NW	.6	1.4	2.4	2.2	.3	.0						6.9	9.2
NNW	.4	.8	1.5	1.7	.2	.0	.0					4.6	9.4
VARBL													
CALM												6.1	
	11.6	27.3	33.7	19.6	1.2	.2	.0					100.0	7.3

TOTAL NUMBER OF OBSERVATIONS 70656

CLIMATE CLIMATOLOGY BRANCH
USAFETAC
WEATHER SERVICE/MAC

SURFACE WIND

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

STATION PHILIPS-COLLINS/ALPENA MI YEARS 73-81 ALL MONTHS ALL

INSTRUMENT CIG 200 TO 1400 FT W/ VSBY 1/2 MI OR MORE,
CLASS AND/OR VSBY 1/2 TO 2-1/2 MI W/CIG 200 FT OR MORE
CONDITION ALL
HOWES (L.S.T.)

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.7	1.7	2.8	2.5	.2	.0						7.9	8.9
NNE	.4	1.0	1.8	1.1	.1	.0						4.4	6.7
NE	.4	1.3	1.8	1.0	.1	.0						4.6	8.3
ENE	.3	1.1	1.7	1.1	.1	.0						4.4	8.8
E	.4	1.2	2.5	1.9	.3	.0						6.3	9.3
ESE	.5	1.8	3.2	2.0	.1	.0						7.5	8.7
SE	.6	2.1	3.1	2.2	.2							5.2	8.5
SSE	.8	1.6	2.0	1.1	.1	.0						5.7	7.8
S	1.0	2.7	3.2	1.4	.1							3.4	7.5
SSW	.4	1.1	1.3	.3	.0	.0						3.1	6.8
SW	.5	1.4	1.2	.2	.0							3.4	6.5
WSW	.7	1.5	1.2	.4	.0							3.8	6.5
W	1.0	2.4	2.7	1.1	.1							7.3	7.3
WNW	.7	2.0	3.3	2.2	.3	.0						8.5	8.7
NW	.4	1.3	2.7	3.0	.4	.0						7.8	10.0
NNW	.5	.7	1.7	2.2	.2	.1						5.3	10.0
VARBL													
CALM												3.4	
	9.1	25.0	36.2	23.8	2.3	.3						10.9	8.1

TOTAL NUMBER OF OBSERVATIONS 11575

U S AIR FORCE
ENVIRONMENTAL TECHNICAL
APPLICATIONS CENTER

PART D CEILING VERSUS VISIBILITY

This summary is a bivariate percentage frequency distribution by classes of ceiling from zero to equal to or greater than 20,000 feet and as a separate class "no ceiling", versus visibility in 16 classes from zero to equal to or greater than 10 miles. Data are derived from hourly observations, and three sets of tables are presented as follows:

1. Annual - all years and all hours combined
2. By month - all years and all hours combined
3. By month - by standard 3-hour groups

Due to the cumulative nature of this presentation, it is possible to determine the percentage frequency of occurrence for any given limit of ceiling or visibility separately, or in combination of ceiling and visibility. The totals progress to the right and downward. Ceiling may be determined independently by referring to totals in the extreme right hand column. Also, visibility may be determined independently by reference to the horizontal row of totals at the bottom of the page. The percentage frequency for which the station was meeting or exceeding any given set of minima may be determined from the figure at the intersection of the appropriate ceiling column and visibility row. Several examples in the use of these tables are shown on pages 2 and 3 below.

U. S. Weather Bureau and Navy stations did not report ceilings within the range 10,000 feet and higher prior to January 1949. Summaries prepared from data for these stations using the earlier period and data subsequent to January 1949 will be modified to limit ceilings to 10,000 feet. Short periods of record prior to 1949 for these stations will be eliminated from the summary. For Air Force stations, the "no ceiling" category includes clear and scattered conditions, and ceilings above 20,000 feet for period through June 1948. Beginning in July 1948 for Air Force stations and January 1949 for USWB and U. S. Navy stations the "no ceiling" category consists of observations with less than 6/10 total sky cover and those cases where total sky cover is 6/10 or more, but not more than 1/2 of the sky cover is opaque.

Beginning in January 1968, METAR stations report visibilities to 6 miles and then greater than 6 miles. Thus, for METAR stations, the category equal to or greater than 10 miles is not printed in the tables, unless the summary was for a period ending before January 1968.

Continued on Reverse Side

EXAMPLES FOR USE OF CEILING VERSUS VISIBILITY TABLES IN THIS TABULATION

CEILING (FEET)	VISIBILITY (STATUTE MILES)															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	$\geq 2\frac{1}{2}$	≥ 2	$\geq 1\frac{1}{2}$	$\geq 1\frac{1}{4}$	≥ 1	$\geq \frac{3}{4}$	$\geq \frac{1}{2}$	$\geq \frac{1}{4}$	$\geq \frac{1}{8}$	$\geq \frac{1}{16}$	≥ 0
NO CEILING																
1800																
1500					91.0											92.6
1200																
1000																
900																
800																
700																
600																
500										97.4						98.1
400																
300																
200																
100																
0					95.4		96.9			98.3						100.0

EXAMPLE # 1 Read ceiling values independently of visibility under column at right headed ≥ 0 .
For instance, from the table: Ceiling ≥ 1500 feet = 92.6%.
Ceiling ≥ 500 feet = 98.1%.

EXAMPLE # 2 Read visibilities independently of ceilings on bottom line opposite ≥ 0 . From the table:
Visibility ≥ 3 miles = 95.4%.
Visibility ≥ 2 miles = 96.9%.
Visibility ≥ 1 mile = 98.3%.

EXAMPLE # 3 To obtain combinations of ceiling with visibility, read figure at intersection of the two categories; i.e.: Ceiling ≥ 1500 feet with visibility ≥ 3 miles = 91.0%.

ADDITIONAL EXAMPLES

EXAMPLE # 4 Values below minimums stated in the table may be obtained by subtracting the value given in the table from 100%.
Thus, to obtain the percentage of observations with ceiling < 1500 feet and/or visibility < 3 miles, subtract the value read from the table at the intersection, which is 91.0, from 100.0. The answer 9.0 is the percentage of observations with ceiling < 1500 feet and/or visibility < 3 miles.

Likewise, the percentage of observations with ceiling < 500 feet and/or visibility < 1 mile is 2.6, obtained by subtracting 97.4 from 100.0.

EXAMPLE # 5 To find the percentage of observations falling within the two categories given in example above, subtract the value read from the table for the first set of limits from the value in the table for the second set of limits. The difference will be the percentage of observations meeting the lower set of limits, but not meeting the higher set of limits.

The value 91.0 read from the table at the intersection of ≥ 1500 feet with ≥ 3 miles, subtracted from 97.4 read from the table at the intersection of ≥ 500 feet with ≥ 1 mile is equal to 6.4%. Thus; 6.4 percent of the observations meet the criteria: "ceiling ≥ 500 feet with visibility ≥ 1 mile, but < 3 miles; or ceiling ≥ 500 feet, but < 1500 feet with visibility ≥ 1 mile."

Since these tabulations are prepared in several ways including by month, by 3-hour groups it is possible to determine diurnal variations of ceiling and visibility limits as well as probabilities of various ceiling-visibility combinations.

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

7639.1
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

JAN
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

0000-0200
HOURS, U.S.T.

CEILING FEET	VISIBILITY STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1.4	≥ 1	≥ .9	≥ .8	≥ .7	≥ .6	≥ .5	≥ 0
NO CEILING	18.1	30.5	30.9	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0
≥ 20000	19.2	32.8	33.2	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.5	33.5	33.5	33.5	33.5
≥ 18000	19.2	32.8	33.2	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.5	33.5	33.5	33.5	33.5
≥ 16000	19.2	32.8	33.2	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.5	33.5	33.5	33.5	33.5
≥ 14000	19.2	32.8	33.2	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.5	33.5	33.5	33.5	33.5
≥ 12000	19.5	33.1	33.5	33.6	33.6	33.6	33.6	33.6	33.6	33.7	33.7	33.7	33.7	33.7	33.7	33.7
≥ 10000	20.2	33.9	34.3	34.4	34.4	34.4	34.4	34.4	34.4	34.6	34.6	34.6	34.6	34.6	34.6	34.6
≥ 9000	20.2	34.1	34.4	34.6	34.6	34.6	34.6	34.6	34.6	34.6	34.7	34.7	34.7	34.7	34.7	34.7
≥ 8000	20.3	34.9	35.7	35.8	35.8	35.8	35.8	35.8	35.8	35.9	35.9	35.9	35.9	35.9	35.9	35.9
≥ 7000	21.2	35.4	36.2	36.3	36.3	36.3	36.3	36.3	36.3	36.4	36.4	36.4	36.4	36.4	36.4	36.4
≥ 6000	21.7	36.0	36.8	36.9	36.9	36.9	36.9	36.9	36.9	37.0	37.0	37.0	37.0	37.0	37.0	37.0
≥ 5000	22.3	37.3	38.2	38.4	38.4	38.4	38.4	38.4	38.4	38.5	38.5	38.5	38.5	38.5	38.5	38.5
≥ 4500	24.3	40.0	40.9	41.3	41.3	41.3	41.3	41.3	41.3	41.4	41.4	41.4	41.4	41.4	41.4	41.4
≥ 4000	24.4	40.6	41.5	42.0	42.0	42.0	42.0	42.0	42.0	42.2	42.2	42.2	42.2	42.2	42.2	42.2
≥ 3500	25.4	42.5	43.9	44.6	44.6	44.6	44.6	44.6	44.6	44.7	44.7	44.7	44.7	44.7	44.7	44.7
≥ 3000	27.9	46.9	48.9	49.8	49.9	49.9	49.9	50.0	50.0	50.1	50.1	50.1	50.1	50.1	50.1	50.1
≥ 2500	31.5	53.9	56.3	57.4	58.0	58.0	58.0	58.1	58.1	58.3	58.3	58.3	58.3	58.3	58.3	58.3
≥ 2000	34.3	61.2	64.1	65.4	67.0	67.0	67.8	67.9	67.9	68.1	68.1	68.1	68.3	68.3	68.5	68.5
≥ 1800	35.2	62.9	66.1	67.5	69.6	69.6	70.3	70.5	70.5	70.7	70.7	70.7	70.8	70.8	71.1	71.1
≥ 1500	37.5	69.1	72.7	74.1	76.7	77.0	78.2	78.4	78.4	78.8	78.8	78.8	78.9	78.9	79.2	79.2
≥ 1200	39.3	72.2	76.0	77.7	80.6	80.9	82.4	82.6	82.6	83.1	83.1	83.1	83.2	83.2	83.5	83.5
≥ 1000	39.0	74.1	78.2	79.9	83.3	83.9	86.3	87.0	87.0	87.9	87.9	87.9	88.0	88.0	88.2	88.2
≥ 900	39.5	75.1	79.3	81.0	84.7	85.3	87.7	88.6	88.6	89.5	89.5	89.5	89.6	89.6	89.8	89.8
≥ 800	39.5	75.6	79.8	81.7	85.4	86.4	88.8	90.3	90.4	91.3	91.4	91.4	91.5	91.7	91.9	91.9
≥ 700	39.6	75.9	80.0	82.1	85.8	86.8	89.2	90.8	91.1	91.9	92.0	92.0	92.2	92.6	92.9	92.9
≥ 600	39.7	76.1	80.4	82.7	86.4	87.4	90.3	92.0	92.3	93.1	93.3	93.4	93.5	94.0	94.2	94.2
≥ 500	39.7	76.7	81.4	83.7	87.4	88.4	91.4	93.1	93.9	95.0	95.1	95.2	95.3	96.0	96.2	96.2
≥ 400	39.7	77.0	81.6	84.1	87.7	88.7	91.9	93.6	94.6	95.7	96.2	96.3	96.4	97.1	97.3	97.3
≥ 300	39.7	77.0	81.6	84.2	87.9	88.8	92.0	93.8	94.7	95.8	96.4	96.6	96.7	97.3	97.5	97.5
≥ 200	39.7	77.0	81.6	84.2	87.9	89.2	92.6	94.4	95.3	96.6	97.3	97.4	97.7	98.3	98.5	98.7
≥ 100	39.7	77.0	81.6	84.2	87.9	89.2	92.6	94.5	95.5	96.7	97.7	97.8	98.0	98.8	99.1	99.4
≥ 0	39.7	77.0	81.6	84.2	87.9	89.2	92.6	94.5	95.5	96.7	97.7	97.8	98.0	98.8	99.1	100.0

TOTAL NUMBER OF OBSERVATIONS

616

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

STATION (2334) PHELPS-COLLINS/ALPENA MI

13-81

JAN

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

USUU-USUU
HOURS LIST

CEILING FEET	VISIBILITY STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1	≥0.5	≥0.25	≥0.15	≥0.1	≥0.05	≥0.025	≥0
NO CEILING ≥ 20000	17.0 17.6	28.0 29.4	28.0 29.4	28.3 29.7	28.4 29.8	28.4 29.8	28.4 29.9	28.5 30.0	28.5 30.0	28.5 30.0	28.7 30.1	28.7 30.1	28.7 30.1	28.7 30.1	28.8 30.3	28.8 30.3
IV 18000 IV 16000	17.6 17.6	29.4 29.4	29.4 29.7	29.7 29.8	29.8 29.8	29.8 29.9	30.0 30.0	30.0 30.0	30.0 30.0	30.0 30.0	30.1 30.1	30.1 30.1	30.1 30.1	30.1 30.1	30.3 30.3	30.3 30.3
IV 14000 IV 12000	17.6 17.6	29.4 29.7	29.4 29.7	29.7 29.8	29.8 29.8	29.8 29.9	30.0 30.0	30.0 30.0	30.0 30.0	30.0 30.0	30.1 30.1	30.1 30.1	30.1 30.1	30.1 30.1	30.3 30.3	30.3 30.3
IV 10000 IV 9000	18.5 18.7	30.5 30.8	30.5 30.8	30.8 31.0	30.9 31.1	30.9 31.1	31.0 31.3	31.1 31.4	31.1 31.4	31.1 31.4	31.3 31.5	31.3 31.5	31.3 31.5	31.3 31.5	31.4 31.6	31.4 31.6
IV 8000 IV 7000	19.1 19.4	31.4 31.4	31.4 32.0	31.6 32.3	31.8 32.4	31.8 32.4	31.9 32.5	32.0 32.6	32.0 32.6	32.0 32.6	32.1 32.8	32.1 32.8	32.1 32.8	32.1 32.8	32.3 32.9	32.3 32.9
IV 6000 IV 5000	19.5 20.5	32.3 33.6	32.3 33.7	32.4 34.1	32.5 34.2	32.5 34.2	32.6 34.4	32.8 34.5	32.8 34.5	32.8 34.5	32.9 34.6	32.9 34.6	32.9 34.6	32.9 34.6	33.0 34.7	33.0 34.7
IV 4500 IV 4000	21.3 21.3	35.2 35.4	35.4 35.5	35.7 36.0	35.9 36.1	35.9 36.1	36.0 36.2	36.1 36.4	36.1 36.4	36.1 36.4	36.2 36.5	36.2 36.5	36.2 36.5	36.2 36.5	36.4 36.6	36.4 36.6
IV 3500 IV 3000	22.2 24.8	37.2 42.2	37.3 42.7	37.8 43.2	38.0 43.4	38.0 43.4	38.1 43.5	38.2 43.7	38.2 43.7	38.2 43.7	38.3 43.8	38.3 43.8	38.3 43.8	38.3 43.8	38.5 43.9	38.5 43.9
IV 2500 IV 2000	29.3 31.6	49.4 58.2	50.2 60.7	50.9 62.2	51.5 63.3	51.5 63.5	51.6 64.1	51.7 64.3	51.7 64.3	51.7 64.3	51.9 64.4	51.9 64.4	51.9 64.4	51.9 64.4	52.0 64.9	52.0 64.9
IV 1800 IV 1500	32.5 35.0	60.5 67.9	63.4 71.0	65.1 73.5	66.3 75.4	66.5 75.9	67.2 77.2	67.4 77.5	67.4 77.5	67.4 77.5	67.5 77.7	67.5 77.7	67.5 77.7	67.5 77.7	68.0 78.3	68.0 78.3
IV 1200 IV 1000	36.5 37.5	71.5 74.1	75.1 78.0	77.7 80.8	80.6 83.5	80.6 84.4	82.1 86.5	82.5 86.8	82.5 86.8	82.5 86.8	82.8 87.3	82.8 87.3	82.8 87.3	82.8 87.3	83.5 88.5	83.5 88.5
IV 900 IV 800	38.0 38.0	74.9 75.7	78.9 79.7	81.6 82.5	84.5 85.4	85.4 86.2	87.5 88.5	87.8 89.1	87.8 89.1	87.8 89.1	88.5 90.1	88.5 90.1	88.5 90.1	88.5 90.1	89.3 90.8	89.3 90.8
IV 700 IV 600	38.0 38.0	76.3 76.6	80.5 80.8	83.4 83.7	86.2 86.8	87.3 88.1	89.6 90.7	90.3 91.8	90.3 91.8	90.3 91.8	91.3 92.8	91.3 92.8	91.3 92.8	91.3 92.8	92.1 93.4	92.1 93.4
IV 500 IV 400	38.0 38.0	76.9 76.9	81.1 81.1	84.1 84.1	87.2 87.3	88.5 88.7	91.2 91.4	93.1 93.4	93.3 93.7	94.2 94.7	94.7 95.4	94.7 95.4	94.7 95.4	94.7 95.4	95.7 97.0	95.7 97.0
IV 300 IV 200	38.0 38.0	77.0 77.0	81.3 81.3	84.2 84.2	87.7 87.7	89.1 89.1	92.1 92.1	94.4 94.5	94.7 94.8	95.7 95.9	96.4 96.4	96.4 96.4	96.4 96.4	96.4 96.4	97.6 98.0	97.6 98.0
IV 100 IV 0	38.0 38.0	77.0 77.0	81.3 81.3	84.2 84.2	87.7 87.7	89.1 89.1	92.1 92.1	94.5 94.5	94.9 94.9	96.0 96.0	97.0 97.0	97.1 97.1	97.1 97.1	97.1 97.1	99.4 99.4	99.4 99.4

TOTAL NUMBER OF OBSERVATIONS 806

USAF ETAC FORM 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

126391 PHELPS-COLLINS/ALPENA MI

73-81

JAN

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0600-0800
HOURS LST

CEILING FEET	VISIBILITY STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1.4	≥ 1	≥ .4	≥ .3	≥ .25	≥ .2	≥ .15	≥ 0
NO CEILING	15.7	28.0	28.4	28.4	28.6	29.1	29.1	29.1	29.1	29.1	29.4	29.4	29.4	29.4	29.4	29.4
≥ 20000	16.1	29.0	29.4	29.4	29.6	30.1	30.1	30.2	30.2	30.2	30.5	30.5	30.5	30.5	30.5	30.5
IV 18000	16.4	29.4	29.7	29.7	30.0	30.5	30.5	30.6	30.6	30.6	30.8	30.8	30.8	30.8	30.8	30.8
IV 16000	16.4	29.4	29.7	29.7	30.0	30.5	30.5	30.6	30.6	30.6	30.8	30.8	30.8	30.8	30.8	30.8
IV 14000	16.7	29.6	30.0	30.0	30.2	30.7	30.7	30.8	30.8	30.8	31.1	31.1	31.1	31.1	31.1	31.1
IV 12000	16.7	29.8	30.2	30.2	30.5	30.9	30.9	31.1	31.1	31.1	31.3	31.3	31.3	31.3	31.3	31.3
IV 10000	17.3	30.6	30.9	30.9	31.2	31.7	31.7	31.9	31.9	31.9	32.2	32.2	32.2	32.2	32.2	32.2
IV 9000	17.3	30.6	30.9	30.9	31.2	31.7	31.7	31.9	31.9	31.9	32.2	32.2	32.2	32.2	32.2	32.2
IV 8000	18.1	32.0	32.4	32.4	32.6	33.1	33.1	33.4	33.4	33.4	33.6	33.6	33.6	33.6	33.6	33.6
IV 7000	18.5	32.9	33.3	33.3	33.6	34.1	34.1	34.3	34.3	34.3	34.6	34.6	34.6	34.6	34.6	34.6
IV 6000	18.8	33.5	33.9	33.9	34.3	34.8	34.8	35.1	35.1	35.1	35.3	35.3	35.3	35.3	35.3	35.3
IV 5000	18.9	34.2	35.0	35.0	35.7	36.2	36.2	36.4	36.4	36.4	36.7	36.7	36.7	36.7	36.7	36.7
IV 4500	19.0	34.8	35.6	35.6	36.3	36.8	36.8	37.0	37.0	37.0	37.3	37.3	37.3	37.3	37.3	37.3
IV 4000	19.0	35.1	35.8	35.8	36.5	37.0	37.0	37.3	37.3	37.3	37.6	37.6	37.6	37.6	37.6	37.6
IV 3500	19.9	37.1	37.9	37.9	38.6	39.1	39.1	39.3	39.3	39.3	39.5	39.7	39.7	39.7	39.7	39.7
IV 3000	21.2	39.6	40.4	40.4	41.2	41.8	41.9	42.1	42.1	42.1	42.3	42.5	42.5	42.5	42.5	42.5
IV 2500	25.8	46.4	47.9	48.4	49.7	50.3	50.7	51.0	51.0	51.2	51.6	51.6	51.6	51.6	51.6	51.6
IV 2000	28.3	53.3	55.3	55.9	58.6	59.8	60.9	61.4	61.4	61.6	62.2	62.2	62.2	62.2	62.2	62.2
IV 1800	29.1	55.2	57.2	58.1	61.1	62.4	63.6	64.1	64.1	64.3	65.0	65.0	65.0	65.0	65.0	65.0
IV 1500	31.4	62.1	64.6	65.8	69.4	71.0	73.4	74.4	74.4	74.8	76.0	76.0	76.1	76.1	76.1	76.1
IV 1200	33.7	67.5	70.5	71.9	75.9	77.6	80.0	81.2	81.2	81.6	82.8	82.8	82.9	82.9	82.9	82.9
IV 1000	34.3	70.4	73.8	75.9	80.0	81.7	84.3	85.7	85.7	86.8	88.2	88.2	88.3	88.3	88.3	88.3
IV 900	34.7	71.1	74.5	76.7	81.0	82.7	85.3	86.7	86.7	87.8	89.2	89.2	89.3	89.3	89.3	89.3
IV 800	35.3	72.2	75.6	77.8	82.1	83.8	86.4	87.8	87.8	89.2	90.6	90.7	90.9	90.9	90.9	90.9
IV 700	35.3	73.0	76.5	78.9	83.2	85.0	87.6	89.2	89.2	90.5	92.1	92.2	92.3	92.4	92.4	92.4
IV 600	35.3	73.2	76.7	79.2	83.6	85.4	87.9	89.5	89.6	91.0	92.7	92.9	93.1	93.2	93.2	93.2
IV 500	35.3	73.3	76.9	79.4	83.8	86.0	88.7	90.4	90.5	92.0	94.3	95.1	95.2	95.4	95.4	95.4
IV 400	35.3	73.4	77.0	79.5	84.0	86.2	88.9	90.9	91.0	92.6	94.9	95.7	96.1	96.8	96.8	96.8
IV 300	35.3	73.4	77.0	79.5	84.0	86.4	89.0	91.6	91.8	93.4	95.7	96.6	97.0	97.7	97.9	97.9
IV 200	35.3	73.4	77.0	79.5	84.0	86.4	89.2	91.7	92.0	93.7	96.5	97.3	98.1	98.9	99.4	99.5
IV 100	35.3	73.4	77.0	79.5	84.0	86.4	89.2	91.7	92.0	93.7	96.6	97.4	98.2	99.1	99.6	99.9
IV 0	35.3	73.4	77.0	79.5	84.0	86.4	89.2	91.7	92.0	93.7	96.6	97.4	98.2	99.1	99.6	100.0

TOTAL NUMBER OF OBSERVATIONS 821

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

1263911
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

JAN
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0900-1100
HOURS

CEILING FEET	VISIBILITY (STATUTE MILES)															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1.4	≥1	≥.5	≥.4	≥.3	≥.25	≥.2	≥.15
NO CEILING	19.5	30.2	30.9	31.5	31.9	32.4	32.1	32.4	32.4	32.5	32.5	32.5	32.5	32.5	32.5	32.5
≥ 20000	19.8	32.2	33.1	34.1	34.6	35.0	35.3	35.5	35.5	35.7	35.7	35.7	35.7	35.7	35.7	35.7
≥ 18000	20.0	32.5	33.3	34.3	34.8	35.3	35.5	35.8	35.8	35.9	35.9	35.9	35.9	35.9	35.9	35.9
≥ 16000	20.0	32.5	33.3	34.3	34.8	35.3	35.5	35.8	35.8	35.9	35.9	35.9	35.9	35.9	35.9	35.9
≥ 14000	20.3	32.8	33.7	34.7	35.2	35.7	35.9	36.1	36.1	36.3	36.3	36.3	36.3	36.3	36.3	36.3
≥ 12000	20.6	33.2	34.1	35.0	35.5	36.0	36.3	36.5	36.5	36.6	36.6	36.6	36.6	36.6	36.6	36.6
≥ 10000	21.5	35.9	36.8	37.9	38.3	38.9	39.2	39.7	39.7	39.8	39.8	39.8	39.8	39.8	39.8	39.8
≥ 9000	21.5	35.9	36.8	37.9	38.3	38.9	39.2	39.7	39.7	39.8	39.8	39.8	39.8	39.8	39.8	39.8
≥ 8000	22.0	36.9	37.7	38.8	39.3	40.3	40.5	41.0	41.0	41.1	41.1	41.1	41.1	41.1	41.1	41.1
≥ 7000	23.0	37.9	38.8	39.9	40.4	41.4	41.6	42.1	42.1	42.2	42.2	42.2	42.2	42.2	42.2	42.2
≥ 6000	23.4	38.3	39.3	40.4	40.9	41.9	42.1	42.6	42.6	42.7	42.7	42.7	42.7	42.7	42.7	42.7
≥ 5000	23.7	39.4	40.5	41.4	42.0	43.0	43.2	43.7	43.7	43.8	43.8	43.8	43.8	43.8	43.8	43.8
≥ 4500	24.2	39.8	40.9	42.1	42.7	43.7	44.0	44.4	44.4	44.6	44.6	44.6	44.6	44.6	44.6	44.6
≥ 4000	24.3	39.9	41.0	42.5	43.1	44.1	44.3	44.8	44.8	44.9	44.9	44.9	44.9	44.9	44.9	44.9
≥ 3500	25.5	41.5	42.9	44.3	44.9	45.9	46.2	46.6	46.6	46.8	46.8	46.8	46.8	46.8	46.8	46.8
≥ 3000	26.5	44.0	45.4	47.1	47.9	48.8	49.2	49.7	49.7	49.8	49.8	49.8	49.8	49.8	49.8	49.8
≥ 2500	28.1	48.8	50.4	52.3	53.2	54.3	54.8	55.4	55.4	55.8	55.8	55.8	55.8	55.8	55.8	55.8
≥ 2000	29.9	53.2	55.2	57.6	59.8	61.8	62.5	63.1	63.1	63.6	63.7	63.7	63.7	63.7	63.7	63.7
≥ 1800	31.1	55.8	58.0	60.7	63.0	65.1	65.8	66.7	66.7	67.2	67.3	67.3	67.3	67.3	67.3	67.3
≥ 1500	32.4	59.7	62.5	65.8	68.9	71.1	72.6	74.1	74.1	75.1	75.3	75.3	75.5	75.5	75.5	75.5
≥ 1200	33.6	63.7	66.5	70.2	73.5	75.8	77.9	79.4	79.4	80.5	81.1	81.1	81.2	81.2	81.2	81.2
≥ 1000	34.3	65.9	68.7	72.8	76.8	79.4	82.1	84.0	84.0	85.3	86.3	86.3	86.4	86.4	86.4	86.4
≥ 900	34.3	66.3	69.2	73.3	77.5	80.1	82.8	84.7	84.7	86.2	87.3	87.3	87.5	87.5	87.5	87.5
≥ 800	34.3	66.8	69.8	74.4	78.8	81.3	84.0	86.1	86.1	87.7	89.3	89.5	89.7	89.7	89.7	89.7
≥ 700	34.3	67.5	70.7	75.2	79.6	82.3	85.1	87.7	87.8	89.5	91.3	91.6	91.8	91.8	91.8	91.8
≥ 600	34.3	67.6	70.9	75.8	80.3	83.0	86.1	88.8	89.0	90.8	93.2	93.4	93.7	93.7	93.7	93.7
≥ 500	34.3	67.8	71.3	76.2	81.0	83.8	86.8	89.7	90.0	92.1	94.3	94.9	95.5	95.5	95.5	95.5
≥ 400	34.3	67.9	71.4	76.6	81.4	84.4	87.5	90.5	90.7	93.0	95.7	96.1	96.7	96.9	96.9	96.9
≥ 300	34.3	67.9	71.4	76.8	81.7	84.6	87.8	90.7	91.0	93.4	96.3	96.7	97.4	97.7	97.8	97.8
≥ 200	34.3	67.9	71.4	76.8	81.7	84.6	87.8	90.7	91.0	93.7	97.1	97.6	98.5	99.0	99.1	99.6
≥ 100	34.3	67.9	71.4	76.8	81.7	84.6	87.8	90.7	91.0	93.7	97.1	97.6	98.5	99.1	99.3	99.9
≥ 0	34.3	68.4	71.6	76.9	81.8	84.7	87.9	90.8	91.1	93.8	97.2	97.7	98.7	99.3	99.4	100.0

TOTAL NUMBER OF OBSERVATIONS 819

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

120390
STATION

PHILIPS-COLLINS/ALPENA M1
STATION NAME

73-81
YEARS

JAN
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1200-1400
HOURS

CEILING FEET	VISIBILITY - STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1.4	≥1	≥.4	≥.3	≥.2	≥.16	≥.1	≥0
NO CEILING	20.0	32.3	32.9	32.9	33.3	33.3	33.8	33.8	33.8	33.8	33.8	33.8	33.8	33.8	33.8	33.8
≥ 20000	20.9	35.9	36.5	36.5	36.9	36.9	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5
IV 18000	21.5	36.5	37.1	37.1	37.5	37.5	38.1	38.1	38.1	38.1	38.1	38.1	38.1	38.1	38.1	38.1
IV 16000	21.5	36.5	37.1	37.1	37.5	37.5	38.1	38.1	38.1	38.1	38.1	38.1	38.1	38.1	38.1	38.1
IV 14000	21.5	36.7	37.3	37.3	37.7	37.7	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3
IV 12000	22.7	37.7	38.3	38.3	38.7	38.7	39.3	39.3	39.3	39.3	39.3	39.3	39.3	39.3	39.3	39.3
IV 10000	22.5	38.7	39.3	39.3	39.8	39.8	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.4
IV 9000	22.5	38.7	39.3	39.3	39.8	39.8	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.4
IV 8000	23.7	39.9	40.5	40.5	41.2	41.2	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0
IV 7000	23.9	40.3	40.9	40.9	41.6	41.6	42.6	42.6	42.6	42.6	42.6	42.6	42.6	42.6	42.6	42.6
IV 6000	24.4	40.9	41.5	41.5	42.3	42.3	43.4	43.4	43.4	43.4	43.4	43.5	43.5	43.5	43.5	43.5
IV 5000	24.8	41.4	42.0	42.0	42.8	42.8	43.4	44.0	44.0	44.0	44.0	44.1	44.1	44.1	44.1	44.1
IV 4500	25.2	41.9	42.5	42.5	43.2	43.2	43.9	44.5	44.5	44.5	44.5	44.6	44.6	44.6	44.6	44.6
IV 4000	25.3	42.1	42.9	42.9	43.6	43.6	44.2	44.8	44.8	44.8	44.8	45.0	45.0	45.0	45.1	45.1
IV 3500	26.3	43.7	44.5	44.5	45.6	45.6	46.2	46.8	46.8	46.8	46.9	46.9	47.1	47.1	47.1	47.1
IV 3000	27.4	46.1	46.9	46.9	47.2	47.2	48.3	48.9	48.9	49.5	49.5	49.6	49.6	49.6	49.8	49.8
IV 2500	29.6	53.1	54.3	54.3	56.6	56.6	57.4	58.0	58.0	58.1	58.1	58.1	58.2	58.4	58.4	58.4
IV 2000	32.8	60.6	62.3	62.3	63.1	63.1	65.2	66.1	67.1	67.2	67.3	67.3	67.4	67.6	67.6	67.6
IV 1800	33.7	63.1	65.1	65.1	66.1	66.1	68.4	69.5	70.8	71.1	71.3	71.3	71.4	71.5	71.6	71.6
IV 1500	35.0	68.8	71.1	71.1	72.5	72.5	75.4	77.3	78.9	80.0	80.1	80.5	80.8	81.2	81.3	81.4
IV 1200	35.7	71.7	74.3	74.3	76.3	76.3	79.6	81.4	83.2	84.5	84.6	85.3	85.7	86.1	86.2	86.4
IV 1000	36.0	73.3	76.4	76.4	78.5	78.5	82.3	84.8	86.7	88.1	88.2	89.3	89.8	90.2	90.3	90.4
IV 900	36.0	73.5	76.5	76.5	78.6	78.6	82.4	84.9	87.0	88.5	88.6	89.9	90.5	90.9	91.0	91.2
IV 800	36.1	73.8	77.1	77.1	79.4	79.4	83.2	85.7	88.3	90.2	90.3	91.8	92.5	92.9	93.0	93.1
IV 700	36.2	74.2	77.6	77.6	79.9	79.9	83.9	86.5	89.4	91.5	91.8	93.5	94.3	94.7	94.8	95.0
IV 600	36.2	74.4	77.9	77.9	80.1	80.1	84.3	86.9	89.8	92.0	92.3	94.0	94.8	95.2	95.3	95.5
IV 500	36.2	74.6	78.1	78.1	80.3	80.3	84.5	87.1	90.0	92.5	92.8	94.6	95.6	95.9	96.1	96.2
IV 400	36.2	74.7	78.4	78.4	80.6	80.6	85.1	87.7	90.7	93.1	93.4	95.2	96.3	96.7	96.8	97.1
IV 300	36.2	74.7	78.4	78.4	80.6	80.6	85.1	87.8	90.9	93.4	93.6	95.8	97.1	97.4	97.5	98.0
IV 200	36.2	74.7	78.4	78.4	80.6	80.6	85.1	87.8	90.9	93.4	93.6	95.8	97.2	97.7	97.8	98.3
IV 100	36.2	74.7	78.4	78.4	80.6	80.6	85.1	87.8	90.9	93.4	93.6	95.8	97.2	97.7	97.9	98.4
IV 0	36.2	74.7	78.4	78.4	80.6	80.6	85.1	87.8	90.9	93.4	93.6	95.8	97.2	97.7	97.9	98.4

TOTAL NUMBER OF OBSERVATIONS 814

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

726391

STATION NAME
PHELPS-COLLINS/ALPENA MI

73-81

JAN

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1500-1700
HOURS (LST)

CEILING FEET	VISIBILITY - STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1.25	≥1	≥.75	≥.5	≥.25	≥.16	≥.1	≥0
NO CEILING	20.5	33.2	33.3	33.5	33.5	33.6	33.7	33.7	33.7	33.8	33.8	33.8	33.8	33.8	33.8	33.8
≥ 20000	22.7	37.4	37.5	37.7	37.8	37.9	38.0	38.0	38.0	38.1	38.1	38.1	38.1	38.1	38.1	38.1
IV 18000	23.2	37.9	38.0	38.1	38.3	38.4	38.5	38.5	38.5	38.6	38.6	38.6	38.6	38.6	38.6	38.6
IV 16000	23.2	37.9	38.0	38.1	38.3	38.4	38.5	38.5	38.5	38.6	38.6	38.6	38.6	38.6	38.6	38.6
IV 14000	23.2	37.9	38.0	38.1	38.3	38.4	38.5	38.5	38.5	38.6	38.6	38.6	38.6	38.6	38.6	38.6
IV 12000	23.6	39.1	39.3	39.4	39.5	39.6	39.8	39.8	39.8	39.9	39.9	39.9	39.9	39.9	39.9	39.9
IV 10000	24.3	41.1	41.2	41.4	41.5	41.6	41.7	41.7	41.7	41.9	41.9	41.9	41.9	41.9	41.9	41.9
IV 9000	24.4	41.4	41.5	41.6	41.7	41.9	42.0	42.0	42.0	42.1	42.1	42.1	42.1	42.1	42.1	42.1
IV 8000	25.4	42.6	42.7	43.1	43.2	43.6	43.7	43.7	43.7	43.8	43.8	43.8	43.8	43.8	43.8	43.8
IV 7000	26.3	43.5	43.6	44.0	44.1	44.4	44.6	44.6	44.6	44.7	44.7	44.7	44.7	44.7	44.7	44.7
IV 6000	26.4	43.7	43.8	44.2	44.4	44.8	44.9	44.9	44.9	45.1	45.1	45.1	45.1	45.1	45.1	45.1
IV 5000	26.2	44.1	44.3	44.7	44.9	45.3	45.4	45.4	45.4	45.6	45.6	45.6	45.6	45.6	45.6	45.6
IV 4500	27.3	45.2	45.4	45.8	46.0	46.4	46.5	46.5	46.5	46.7	46.7	46.7	46.7	46.7	46.7	46.7
IV 4000	27.8	45.9	46.2	46.5	46.8	47.2	47.3	47.3	47.3	47.4	47.4	47.4	47.4	47.4	47.4	47.4
IV 3500	28.3	47.0	47.8	48.1	48.5	48.9	49.0	49.0	49.0	49.1	49.1	49.1	49.1	49.1	49.1	49.1
IV 3000	30.4	49.9	50.6	51.0	51.4	51.7	51.9	51.9	51.9	52.0	52.0	52.0	52.0	52.0	52.0	52.0
IV 2500	34.2	57.3	58.4	58.6	59.3	59.6	59.9	60.0	60.0	60.2	60.2	60.2	60.2	60.2	60.2	60.2
IV 2000	37.5	68.5	67.5	69.3	70.4	70.9	71.5	71.9	71.9	72.1	72.1	72.1	72.1	72.1	72.1	72.1
IV 1800	38.5	69.3	70.2	72.0	73.6	74.1	74.7	75.2	75.2	75.4	75.4	75.4	75.4	75.4	75.4	75.4
IV 1500	40.7	74.6	76.0	78.0	79.8	80.5	81.4	82.3	82.3	82.8	83.1	83.1	83.1	83.1	83.1	83.1
IV 1200	41.9	78.0	79.5	81.5	83.8	84.8	86.3	87.3	87.3	87.8	88.1	88.1	88.1	88.1	88.1	88.1
IV 1000	41.9	79.4	80.6	82.8	85.6	87.2	88.9	90.1	90.1	90.7	91.4	91.4	91.6	91.6	91.6	91.6
IV 900	41.9	79.1	80.7	83.0	85.7	87.5	89.4	90.6	90.6	91.2	91.9	92.0	92.2	92.2	92.2	92.2
IV 800	41.9	79.3	80.9	83.3	86.0	87.9	90.0	91.2	91.2	91.9	92.5	92.6	92.8	92.8	92.8	92.8
IV 700	41.9	79.3	80.9	83.3	86.0	88.0	90.2	92.0	92.0	92.6	93.5	93.6	94.0	94.1	94.1	94.1
IV 600	41.9	79.3	81.0	83.5	86.3	88.3	90.5	92.3	92.5	93.6	94.4	94.7	95.1	95.2	95.2	95.2
IV 500	41.9	79.4	81.1	83.6	86.5	88.6	90.9	92.7	92.8	94.0	95.1	95.6	96.2	96.3	96.3	96.3
IV 400	41.9	79.4	81.1	83.6	86.5	88.6	91.2	93.1	93.2	94.6	95.7	96.2	96.8	96.9	96.9	96.9
IV 300	41.9	79.4	81.1	83.6	86.8	88.9	91.5	93.6	93.7	95.1	96.2	96.8	97.4	97.5	97.5	97.5
IV 200	41.9	79.4	81.1	83.6	86.8	88.9	91.7	93.8	94.0	95.7	96.8	97.5	98.4	98.6	98.6	98.6
IV 100	41.9	79.4	81.1	83.6	86.8	88.9	91.7	93.8	94.0	95.7	96.8	97.5	98.4	98.6	98.6	98.6
IV 0	41.9	79.4	81.1	83.6	86.8	88.9	91.7	93.8	94.0	95.7	96.8	97.5	98.4	98.6	98.6	98.6

TOTAL NUMBER OF OBSERVATIONS 810

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAL

CEILING VERSUS VISIBILITY

176590
STATION

PHELPS-CULLINS/ALPENA MI
STATION NAME

73-81
YEARS

JAN
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

1800-2000
HOURS LST

CEILING FEET	VISIBILITY - STATUTE MILES-															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1.4	≥1	≥.5	≥.4	≥.3	≥.25	≥.2	≥0
NO CEILING	22.7	35.4	35.7	35.8	36.0	36.3	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.6	36.6	36.6
≥ 20000	23.7	37.4	37.6	37.7	38.0	38.2	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.6	38.6	38.6
≥ 18000	23.8	37.5	37.7	37.9	38.1	38.3	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.7	38.7	38.7
≥ 16000	23.8	37.5	37.7	37.9	38.1	38.3	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.7	38.7	38.7
≥ 14000	23.8	37.5	37.7	37.9	38.1	38.3	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.7	38.7	38.7
≥ 12000	24.5	38.5	38.7	38.8	39.1	39.3	39.6	39.6	39.6	39.6	39.6	39.6	39.6	39.7	39.7	39.7
≥ 10000	25.0	39.6	39.8	39.9	40.2	40.4	40.7	40.7	40.7	40.7	40.7	40.7	40.7	40.8	40.8	40.8
≥ 9000	25.3	39.8	40.0	40.2	40.4	40.7	40.9	40.9	40.9	40.9	40.9	40.9	40.9	41.0	41.0	41.0
≥ 8000	26.3	41.9	42.2	42.4	42.9	43.1	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.5	43.5	43.5
≥ 7000	27.0	42.9	43.2	43.3	43.8	44.1	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.4	44.4	44.4
≥ 6000	27.2	43.5	43.8	44.0	44.4	44.7	45.1	45.2	45.2	45.2	45.2	45.2	45.2	45.3	45.3	45.3
≥ 5000	28.6	45.3	45.7	45.8	46.3	46.5	46.9	47.0	47.0	47.0	47.0	47.0	47.0	47.1	47.1	47.1
≥ 4500	30.3	47.1	48.4	48.5	49.0	49.2	49.6	49.7	49.7	49.7	49.7	49.7	49.7	49.8	49.8	49.8
≥ 4000	30.4	48.1	48.7	48.8	49.3	49.6	49.9	50.1	50.1	50.1	50.1	50.1	50.1	50.2	50.2	50.2
≥ 3500	31.4	49.6	50.8	50.9	51.4	51.8	52.1	52.3	52.3	52.3	52.3	52.3	52.3	52.4	52.4	52.4
≥ 3000	32.8	53.2	54.8	54.9	55.4	55.8	56.2	56.3	56.3	56.3	56.3	56.3	56.3	56.4	56.4	56.4
≥ 2500	38.0	61.5	63.5	63.6	64.6	65.1	65.4	65.7	65.7	65.7	65.7	65.7	65.7	65.8	65.8	65.8
≥ 2000	40.9	68.3	70.3	70.8	72.4	72.9	73.6	74.0	74.1	74.2	74.2	74.2	74.2	74.4	74.4	74.4
≥ 1800	42.1	71.2	73.4	74.2	75.8	76.4	77.2	77.8	77.9	78.0	78.0	78.0	78.0	78.1	78.1	78.1
≥ 1500	43.8	75.1	78.1	79.5	81.2	81.8	82.7	83.9	84.0	84.2	84.5	84.5	84.5	84.6	84.6	84.6
≥ 1200	44.7	77.7	81.0	82.4	84.4	85.1	86.2	87.4	87.5	87.9	88.2	88.2	88.3	88.3	88.3	88.3
≥ 1000	44.8	78.8	82.1	83.5	85.7	86.7	87.9	89.6	89.7	90.5	90.7	90.7	90.8	90.8	90.8	90.8
≥ 900	44.8	78.8	82.2	83.6	85.8	86.9	88.3	90.2	90.4	91.5	91.7	91.7	91.8	91.8	91.8	91.8
≥ 800	44.8	79.2	82.7	84.4	86.6	87.8	89.4	91.7	91.8	93.2	93.5	93.5	93.7	93.7	93.7	93.7
≥ 700	44.8	79.6	83.2	85.0	87.3	88.5	90.2	92.7	92.8	94.1	94.6	94.6	94.7	94.7	94.7	94.7
≥ 600	44.8	79.6	83.2	85.0	87.3	88.5	90.4	92.8	93.2	94.5	95.1	95.1	95.2	95.2	95.2	95.2
≥ 500	44.8	79.6	83.2	85.0	87.3	88.5	90.4	92.9	93.4	94.7	95.4	95.6	95.7	95.7	95.7	95.7
≥ 400	44.8	79.6	83.2	85.1	87.5	89.1	91.1	93.8	94.3	95.6	96.2	96.5	96.8	96.8	97.1	97.1
≥ 300	44.8	79.6	83.2	85.3	88.0	89.9	91.8	94.5	95.0	96.5	97.2	97.4	98.2	98.2	98.4	98.4
≥ 200	44.8	79.6	83.2	85.3	88.0	89.9	91.9	94.6	95.1	96.9	97.7	97.9	98.7	99.0	99.3	99.8
≥ 100	44.8	79.6	83.2	85.3	88.0	89.9	91.9	94.6	95.1	96.9	97.7	97.9	98.7	99.0	99.3	99.8
≥ 0	44.8	79.6	83.2	85.3	88.0	89.9	91.9	94.6	95.1	96.9	97.7	97.9	98.7	99.0	99.3	100.0

TOTAL NUMBER OF OBSERVATIONS 819

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

700390
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

75-81
YEARS

JAN
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

2100-2300
HOURS (LST)

CEILING FEET	VISIBILITY - STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1.25	≥ 1	≥ .75	≥ .5	≥ .25	≥ .16	≥ .1	≥ 0
NO CEILING	19.0	32.3	32.7	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.2	33.2	33.2	33.2	33.2	33.3
≥ 20000	19.9	34.0	34.4	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.9	34.9	34.9	34.9	34.9	35.0
IV 18000	19.9	34.0	34.4	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.9	34.9	34.9	34.9	34.9	35.0
IV 16000	19.9	34.0	34.4	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.9	34.9	34.9	34.9	34.9	35.0
IV 14000	19.9	34.0	34.4	34.8	34.8	34.8	34.8	34.8	34.8	34.8	34.9	34.9	34.9	34.9	34.9	35.0
IV 12000	20.0	34.2	34.5	34.9	34.9	34.9	34.9	34.9	34.9	34.9	35.0	35.0	35.0	35.0	35.0	35.1
IV 10000	21.0	35.3	35.6	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.1	36.1	36.1	36.1	36.1	36.2
IV 9000	21.1	35.4	35.7	36.2	36.2	36.2	36.2	36.2	36.2	36.2	36.4	36.4	36.4	36.4	36.4	36.5
IV 8000	21.6	36.4	37.0	37.5	37.6	37.6	37.6	37.6	37.6	37.6	37.7	37.7	37.7	37.7	37.7	37.8
IV 7000	22.2	37.3	38.0	38.5	38.6	38.6	38.6	38.7	38.7	38.7	38.8	38.8	38.8	38.8	38.8	38.9
IV 6000	22.6	38.1	38.7	39.2	39.3	39.3	39.3	39.4	39.4	39.4	39.6	39.6	39.6	39.6	39.6	39.7
IV 5000	23.6	39.3	39.9	40.4	40.5	40.5	40.5	40.7	40.7	40.7	40.8	40.8	40.8	40.8	40.8	40.9
IV 4500	24.4	41.3	42.1	42.6	42.9	42.9	42.9	43.1	43.1	43.1	43.2	43.2	43.2	43.2	43.2	43.4
IV 4000	25.1	42.1	43.0	43.6	43.9	43.9	43.9	44.1	44.1	44.1	44.2	44.2	44.2	44.2	44.2	44.3
IV 3500	26.8	45.0	45.9	46.9	47.2	47.3	47.3	47.5	47.5	47.5	47.7	47.7	47.7	47.7	47.7	47.8
IV 3000	28.4	48.9	49.9	50.9	51.2	51.4	51.4	51.7	51.7	51.7	51.8	51.8	51.8	51.8	51.8	52.0
IV 2500	32.6	56.1	57.5	58.6	59.6	59.7	59.7	60.1	60.1	60.1	60.2	60.2	60.2	60.2	60.2	60.3
IV 2000	35.0	62.0	63.8	65.5	67.6	68.3	68.8	69.2	69.3	69.3	69.4	69.4	69.4	69.4	69.4	69.5
IV 1800	36.3	65.4	67.3	69.0	71.4	72.2	72.9	73.2	73.3	73.3	73.5	73.5	73.5	73.5	73.5	73.6
IV 1500	37.3	72.6	75.4	77.5	80.5	81.6	82.6	83.3	83.4	83.4	83.5	83.5	83.5	83.5	83.5	83.7
IV 1200	39.7	74.1	77.3	79.5	82.6	83.8	84.9	85.6	85.7	85.9	86.0	86.0	86.0	86.0	86.0	86.1
IV 1000	39.8	76.0	79.2	81.8	85.1	86.5	87.6	88.8	88.9	89.6	89.7	89.7	89.7	89.7	89.7	89.8
IV 900	39.8	76.7	80.0	82.6	86.1	87.5	88.6	89.8	89.9	90.5	90.8	90.8	90.8	90.8	90.8	90.9
IV 800	40.0	77.5	81.0	83.8	87.5	88.8	90.0	91.4	91.6	92.3	92.5	92.5	92.5	92.5	92.5	92.6
IV 700	40.0	77.8	81.2	84.2	88.0	89.3	90.5	92.1	92.4	93.2	93.6	93.6	93.6	93.6	93.6	93.7
IV 600	40.0	77.9	81.3	84.3	88.1	89.6	90.8	92.8	93.2	94.3	94.7	94.7	94.7	94.7	94.7	94.8
IV 500	40.0	78.0	81.7	84.6	88.5	90.0	91.3	93.2	93.7	95.1	95.3	95.7	95.8	96.1	96.1	96.2
IV 400	40.0	78.1	81.8	84.9	88.7	90.3	91.8	93.7	94.2	95.6	95.9	96.2	96.4	96.7	96.7	96.8
IV 300	40.0	78.1	81.8	85.1	89.1	90.7	92.1	94.1	94.6	95.9	96.6	96.8	97.5	97.8	97.9	98.0
IV 200	40.0	78.1	81.8	85.3	89.2	90.8	92.5	94.5	95.2	96.6	97.2	97.4	98.5	98.8	99.0	99.4
IV 100	40.0	78.1	81.8	85.3	89.2	90.8	92.5	94.5	95.2	96.6	97.2	97.5	98.6	99.1	99.5	99.9
IV 0	40.0	78.1	81.8	85.3	89.2	90.8	92.5	94.5	95.2	96.6	97.2	97.5	98.6	99.1	99.6	100.0

TOTAL NUMBER OF OBSERVATIONS 815

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

17639
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

JAN
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

ALL
HOURS 1-24

CEILING FEET	VISIBILITY STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1	≥ 0.5	≥ 0.25	≥ 0.15	≥ 0.1	≥ 0.05	≥ 0.025	≥ 0.01
NO CEILING ≥ 20000	19.1	31.2	31.6	31.8	32.0	32.1	32.2	32.3	32.3	32.3	32.4	32.4	32.4	32.4	32.4	32.4
IV 18000	20.2	33.7	34.1	34.4	34.6	34.7	34.9	35.0	35.0	35.0	35.1	35.1	35.1	35.1	35.1	35.1
IV 16000	20.2	33.7	34.1	34.4	34.6	34.7	34.9	35.0	35.0	35.0	35.1	35.1	35.1	35.1	35.1	35.1
IV 14000	20.3	33.9	34.2	34.5	34.7	34.8	35.0	35.1	35.1	35.1	35.2	35.2	35.2	35.2	35.2	35.2
IV 12000	20.6	34.4	34.8	35.0	35.2	35.4	35.6	35.6	35.6	35.7	35.7	35.7	35.7	35.7	35.8	35.8
IV 10000	21.3	35.7	36.1	36.3	36.5	36.7	36.9	37.0	37.0	37.0	37.1	37.1	37.1	37.1	37.1	37.2
IV 9000	21.4	35.8	36.2	36.5	36.7	36.9	37.0	37.1	37.1	37.2	37.2	37.2	37.3	37.3	37.3	37.3
IV 8000	22.1	37.0	37.5	37.8	38.0	38.3	38.5	38.6	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.8
IV 7000	22.7	37.8	38.2	38.6	38.9	39.2	39.3	39.5	39.5	39.5	39.6	39.6	39.6	39.6	39.6	39.6
IV 6000	23.7	38.3	38.7	39.1	39.4	39.7	39.9	40.0	40.0	40.1	40.1	40.2	40.2	40.2	40.2	40.2
IV 5000	23.6	39.3	39.9	40.2	40.6	40.9	41.1	41.3	41.3	41.3	41.4	41.4	41.4	41.4	41.4	41.4
IV 4500	24.5	40.7	41.4	41.8	42.2	42.5	42.7	42.8	42.8	42.9	43.0	43.0	43.0	43.0	43.0	43.0
IV 4000	24.7	41.2	41.8	42.3	42.7	43.0	43.2	43.4	43.4	43.4	43.5	43.5	43.5	43.5	43.5	43.5
IV 3500	25.7	43.0	43.9	44.4	44.9	45.2	45.4	45.6	45.6	45.6	45.7	45.7	45.7	45.7	45.7	45.8
IV 3000	27.4	46.3	47.5	48.1	48.6	49.0	49.2	49.4	49.4	49.4	49.5	49.5	49.5	49.5	49.5	49.6
IV 2500	31.1	53.3	54.8	55.6	56.6	57.0	57.3	57.5	57.5	57.6	57.7	57.8	57.8	57.8	57.8	57.8
IV 2000	33.3	60.4	62.4	63.7	65.5	66.3	67.0	67.4	67.4	67.6	67.7	67.7	67.8	67.8	67.8	67.9
IV 1800	34.8	62.9	65.1	66.6	68.6	69.5	70.3	70.7	70.8	70.9	71.1	71.1	71.2	71.2	71.3	71.3
IV 1500	36.9	68.7	71.4	73.3	75.9	77.0	78.4	79.2	79.3	79.6	80.0	80.0	80.1	80.2	80.2	80.2
IV 1200	38.1	72.0	75.0	77.1	80.0	81.3	82.9	83.8	83.9	84.3	84.7	84.8	84.9	84.9	85.0	85.0
IV 1000	38.4	74.0	77.1	79.5	82.8	84.3	86.3	87.5	87.6	88.4	89.0	89.0	89.2	89.2	89.2	89.3
IV 900	38.6	74.4	77.7	80.0	83.5	85.0	87.1	88.4	88.4	89.4	90.0	90.0	90.2	90.2	90.3	90.3
IV 800	38.7	75.0	78.3	80.9	84.4	86.0	88.2	89.7	89.8	90.9	91.5	91.7	91.8	91.9	91.9	91.9
IV 700	38.8	75.4	78.8	81.5	85.0	86.7	89.0	90.8	90.9	92.0	92.9	93.0	93.2	93.3	93.4	93.4
IV 600	38.8	75.6	79.0	81.8	85.4	87.1	89.6	91.5	91.7	93.0	93.9	94.0	94.2	94.4	94.4	94.5
IV 500	38.8	75.8	79.3	82.1	85.8	87.6	90.1	92.2	92.5	93.9	95.0	95.4	95.6	95.8	95.9	95.9
IV 400	38.8	75.9	79.4	82.3	86.1	88.0	90.6	92.8	93.1	94.6	95.8	96.1	96.5	96.9	97.0	97.0
IV 300	38.8	75.9	79.5	82.4	86.3	88.3	90.9	93.3	93.6	95.2	96.5	96.9	97.4	97.7	97.9	97.9
IV 200	38.8	75.9	79.5	82.4	86.3	88.3	91.1	93.4	93.9	95.6	97.1	97.5	98.2	98.7	99.0	99.3
IV 100	38.8	75.9	79.5	82.4	86.3	88.3	91.1	93.5	93.9	95.6	97.1	97.6	98.3	98.9	99.3	99.7
IV 0	38.8	75.9	79.5	82.5	86.3	88.3	91.1	93.5	93.9	95.6	97.2	97.6	98.4	98.9	99.4	100.0

TOTAL NUMBER OF OBSERVATIONS 6519

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAL

CEILING VERSUS VISIBILITY

1989 PHELPS-COLLINS/ALPENA MI

73-81

FEB

STATION

STATION NAME

YEARS

MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0000-0200
NO. OF DAYS

CEILING FEET	VISIBILITY STATUTE MILES															
	≥10	≥8	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1.4	≥1	≥.5	≥.4	≥.3	≥.25	≥.2	≥.1
NO CEILING	23.6	39.5	40.7	40.8	41.4	41.5	41.5	41.8	41.8	41.8	41.8	41.8	41.8	41.8	41.8	41.9
≥ 20000	25.7	42.0	43.5	43.8	44.3	44.5	44.5	44.7	44.7	44.7	44.7	44.7	44.7	44.7	44.7	44.9
≥ 18000	25.7	42.0	43.5	43.8	44.3	44.5	44.5	44.7	44.7	44.7	44.7	44.7	44.7	44.7	44.7	44.9
≥ 16000	25.7	42.0	43.5	43.8	44.3	44.5	44.5	44.7	44.7	44.7	44.7	44.7	44.7	44.7	44.7	44.9
≥ 14000	25.9	42.3	43.8	44.1	44.6	44.7	44.7	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.1	45.1
≥ 12000	26.2	42.6	44.2	44.5	45.0	45.1	45.1	45.4	45.4	45.4	45.4	45.4	45.4	45.4	45.5	45.5
≥ 10000	26.5	43.5	45.1	45.4	45.9	46.1	46.1	46.4	46.4	46.4	46.4	46.4	46.4	46.4	46.5	46.5
≥ 9000	26.6	43.8	45.4	45.7	46.2	46.4	46.4	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.8	46.8
≥ 8000	28.1	45.5	47.2	47.4	48.0	48.1	48.1	48.4	48.4	48.4	48.4	48.4	48.4	48.4	48.5	48.5
≥ 7000	28.8	47.2	48.8	49.1	49.6	49.7	49.7	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.1	50.1
≥ 6000	29.3	48.0	49.6	49.9	50.7	50.8	50.8	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.2	51.2
≥ 5000	30.4	50.8	53.1	53.4	54.3	54.5	54.5	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.9	54.9
≥ 4500	31.4	52.4	55.1	55.5	56.5	56.6	56.6	56.9	56.9	56.9	56.9	56.9	56.9	56.9	57.0	57.0
≥ 4000	31.4	53.6	56.5	56.9	57.8	58.0	58.0	58.2	58.2	58.2	58.2	58.2	58.2	58.2	58.4	58.4
≥ 3500	32.7	55.5	58.5	58.9	59.9	60.0	60.0	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.4	60.4
≥ 3000	35.3	60.3	63.8	64.3	65.4	65.5	65.5	65.8	65.8	65.8	65.8	65.8	65.8	65.8	65.9	65.9
≥ 2500	36.6	64.5	68.2	68.8	70.0	70.1	70.1	70.4	70.4	70.4	70.4	70.4	70.4	70.4	70.5	70.5
≥ 2000	38.6	69.9	74.3	75.1	76.5	76.8	77.2	77.4	77.4	77.4	77.4	77.4	77.4	77.4	77.6	77.6
≥ 1800	39.6	71.6	76.6	77.6	79.1	79.3	79.7	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.1	80.1
≥ 1500	40.1	75.8	81.4	82.6	84.6	84.9	85.5	86.2	86.2	86.2	86.2	86.2	86.2	86.2	86.4	86.4
≥ 1200	40.7	78.0	83.8	85.1	87.2	87.4	88.1	88.8	88.8	89.1	89.1	89.1	89.1	89.1	89.2	89.2
≥ 1000	40.7	79.2	85.1	86.8	89.3	89.7	90.5	91.4	91.4	91.6	91.6	91.6	91.6	91.6	91.8	91.8
≥ 900	40.7	79.5	85.5	87.3	89.9	90.3	91.2	92.0	92.0	92.3	92.3	92.3	92.3	92.3	92.4	92.4
≥ 800	40.8	79.7	85.9	87.7	90.3	90.7	91.8	92.6	92.6	92.8	92.8	92.8	92.8	92.8	93.0	93.0
≥ 700	40.8	80.4	86.8	88.8	91.6	92.0	93.1	94.2	94.3	94.6	94.6	94.6	94.6	94.6	94.7	94.7
≥ 600	40.8	80.6	87.2	89.3	92.2	92.6	93.6	94.7	94.9	95.3	95.3	95.3	95.3	95.3	95.4	95.4
≥ 500	40.8	80.7	87.3	89.7	92.6	93.0	94.3	95.8	95.9	96.5	96.8	96.8	96.8	96.8	96.9	96.9
≥ 400	40.8	80.7	87.3	89.7	92.8	93.2	94.6	96.1	96.2	96.8	97.3	97.3	97.3	97.6	97.7	97.7
≥ 300	40.8	80.8	87.6	90.1	93.2	93.6	95.1	96.6	96.8	97.4	98.1	98.1	98.4	98.4	98.5	98.5
≥ 200	40.8	80.8	87.6	90.1	93.2	93.6	95.4	97.0	97.3	98.0	98.8	98.8	99.1	99.1	99.2	99.2
≥ 100	40.8	80.8	87.6	90.1	93.2	93.6	95.4	97.0	97.3	98.0	98.9	98.9	99.5	99.5	99.7	99.7
≥ 0	40.8	80.8	87.6	90.1	93.2	93.6	95.4	97.0	97.3	98.0	98.9	98.9	99.5	99.5	99.7	99.7

TOTAL NUMBER OF OBSERVATIONS 740

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

17-39-1 PHELPS-COLLINS/ALPENA MI

73-81

FEB

STATION

STATION NAME

YEARS

MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0300-0500
HOURS

CEILING FEET	VISIBILITY STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1.4	≥ 1	≥ .9	≥ .8	≥ .7	≥ .6	≥ .5	≥ 0
NO CEILING	21.1	36.2	36.7	37.1	37.6	37.6	37.8	37.9	38.0	38.0	38.0	38.0	38.0	38.2	38.2	38.2
≥ 20000	22.7	38.3	39.2	40.1	40.6	40.6	40.7	40.9	41.0	41.0	41.0	41.0	41.0	41.1	41.1	41.1
≥ 18000	22.7	38.3	39.2	40.1	40.6	40.6	40.7	40.9	41.0	41.0	41.0	41.0	41.0	41.1	41.1	41.1
≥ 16000	22.7	38.3	39.2	40.1	40.6	40.6	40.7	40.9	41.0	41.0	41.0	41.0	41.0	41.1	41.1	41.1
≥ 14000	22.8	38.6	39.5	40.3	40.9	40.9	41.0	41.1	41.3	41.3	41.3	41.3	41.3	41.4	41.4	41.4
≥ 12000	23.3	39.1	40.1	40.9	41.4	41.4	41.5	41.7	41.8	41.8	41.8	41.8	41.9	41.9	41.9	41.9
≥ 10000	23.4	39.9	41.0	41.8	42.3	42.3	42.5	42.6	42.7	42.7	42.7	42.7	42.9	42.9	42.9	42.9
≥ 9000	23.7	40.2	41.3	42.1	42.6	42.6	42.7	42.9	43.0	43.0	43.0	43.0	43.1	43.1	43.1	43.1
≥ 8000	24.4	41.8	42.9	43.7	44.2	44.2	44.4	44.5	44.6	44.6	44.6	44.6	44.8	44.8	44.8	44.8
≥ 7000	25.3	42.7	43.5	44.6	45.2	45.2	45.3	45.4	45.6	45.6	45.6	45.6	45.7	45.7	45.7	45.7
≥ 6000	25.5	43.0	44.1	44.9	45.4	45.4	45.6	45.7	45.8	45.8	45.8	45.8	46.0	46.0	46.0	46.0
≥ 5000	27.4	46.0	47.0	48.1	49.1	49.1	49.2	49.3	49.5	49.5	49.5	49.5	49.6	49.6	49.6	49.6
≥ 4500	28.1	46.8	47.8	48.9	49.9	49.9	50.0	50.1	50.3	50.3	50.3	50.3	50.4	50.4	50.4	50.4
≥ 4000	28.4	48.0	49.3	50.4	51.6	51.6	51.7	51.9	52.0	52.0	52.0	52.0	52.2	52.2	52.2	52.2
≥ 3500	30.1	50.4	51.7	53.0	54.2	54.3	54.4	54.6	54.7	54.7	54.7	54.7	54.8	54.8	54.8	54.8
≥ 3000	32.8	55.9	57.8	59.3	60.5	60.6	60.8	60.9	61.0	61.0	61.0	61.0	61.2	61.2	61.2	61.2
≥ 2500	34.7	60.9	63.3	64.8	66.0	66.1	66.5	66.7	66.8	66.8	66.8	66.8	66.9	66.9	66.9	66.9
≥ 2000	36.2	65.3	68.3	70.2	71.5	71.6	72.2	72.3	72.4	72.4	72.4	72.4	72.6	72.6	72.6	72.6
≥ 1800	36.6	66.7	69.8	71.6	73.4	73.5	74.1	74.6	74.7	74.7	74.7	74.7	74.9	74.9	74.9	74.9
≥ 1500	38.0	71.2	74.7	76.9	79.6	79.8	80.9	81.7	81.9	82.0	82.0	82.0	82.1	82.1	82.1	82.1
≥ 1200	38.6	74.1	78.5	80.9	83.7	84.1	85.2	86.0	86.3	86.4	86.4	86.4	86.6	86.6	86.6	86.6
≥ 1000	38.8	75.5	80.6	83.3	86.6	87.1	88.4	89.5	89.8	90.1	90.1	90.1	90.2	90.2	90.2	90.2
≥ 900	39.0	75.9	81.3	83.7	87.0	87.5	88.8	89.9	90.2	90.5	90.5	90.5	90.6	90.6	90.6	90.6
≥ 800	39.0	76.2	81.3	84.1	87.6	88.2	89.5	90.6	90.9	91.1	91.3	91.3	91.4	91.4	91.4	91.4
≥ 700	39.1	76.5	81.6	84.5	88.3	88.8	90.3	91.4	91.7	91.9	92.1	92.1	92.2	92.2	92.2	92.2
≥ 600	39.1	76.9	82.1	85.3	89.1	89.7	91.1	92.2	92.6	93.0	93.3	93.3	93.4	93.4	93.4	93.4
≥ 500	39.1	77.2	82.4	85.6	89.5	90.1	91.9	93.1	93.5	94.4	94.8	94.8	95.3	95.3	95.3	95.3
≥ 400	39.1	77.3	82.5	86.3	90.2	91.1	93.3	94.5	95.0	95.8	96.4	96.4	97.0	97.0	97.2	97.2
≥ 300	39.1	77.3	82.5	86.4	90.3	91.3	93.5	94.8	95.4	96.4	96.9	96.9	97.6	97.6	97.7	97.7
≥ 200	39.1	77.3	82.5	86.4	90.3	91.3	94.0	95.3	96.2	97.2	97.8	97.8	98.5	98.5	99.1	99.1
≥ 100	39.1	77.3	82.5	86.4	90.3	91.3	94.0	95.3	96.2	97.3	98.1	98.1	98.8	98.8	99.5	99.7
≥ 0	39.1	77.3	82.5	86.4	90.3	91.3	94.0	95.3	96.2	97.3	98.1	98.1	98.8	98.8	99.5	100.0

TOTAL NUMBER OF OBSERVATIONS 744

USAF ETAC FORM JUL 84 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

STATION: PHELPS-COLLINS/ALPENA MI

73-81

FEB

PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

3600-0800
HOURS

CEILING FEET	VISIBILITY STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1	≥0.5	≥0.25	≥0.15	≥0.1	≥0.05	≥0.025	≥0
NO CEILING	17.4	33.3	31.1	31.8	32.8	32.8	32.8	33.1	33.1	33.1	33.1	33.1	33.1	33.1	33.1	33.4
≥20000	18.8	32.2	33.1	33.8	35.0	35.0	35.1	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.6
≥18000	19.0	32.3	33.2	33.9	35.1	35.1	35.2	35.5	35.5	35.5	35.5	35.5	35.5	35.5	35.5	35.8
≥16000	19.0	32.3	33.2	33.9	35.1	35.1	35.2	35.5	35.5	35.5	35.5	35.5	35.5	35.5	35.5	35.8
≥14000	19.0	32.3	33.2	33.9	35.1	35.1	35.2	35.5	35.5	35.5	35.5	35.5	35.5	35.5	35.5	35.8
≥12000	19.4	33.1	34.0	34.7	35.9	35.9	36.0	36.3	36.3	36.3	36.3	36.3	36.3	36.3	36.3	36.6
≥10000	19.3	33.6	34.6	35.2	36.4	36.6	36.7	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.2
≥9000	19.8	34.2	35.1	35.8	37.0	37.1	37.2	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.9
≥8000	21.4	37.1	38.1	38.9	40.1	40.2	40.3	40.6	40.6	40.6	40.6	40.6	40.6	40.6	40.6	40.9
≥7000	22.2	38.2	39.1	39.9	41.1	41.3	41.5	41.8	41.8	41.8	41.8	41.8	41.8	41.8	41.8	42.1
≥6000	22.5	39.5	40.5	41.5	42.5	42.6	42.9	43.1	43.1	43.1	43.1	43.1	43.1	43.1	43.1	43.4
≥5000	23.6	41.5	42.5	43.5	44.6	44.7	45.0	45.4	45.4	45.4	45.4	45.4	45.4	45.4	45.4	45.7
≥4500	24.7	43.4	44.5	45.4	46.7	47.0	47.3	47.7	47.7	47.7	47.7	47.7	47.7	47.7	47.7	47.9
≥4000	24.8	44.3	45.5	46.6	47.9	48.2	48.5	48.9	48.9	48.9	48.9	48.9	48.9	48.9	48.9	49.1
≥3500	26.4	47.0	48.3	49.5	51.0	51.3	51.7	52.1	52.1	52.1	52.1	52.1	52.1	52.1	52.1	52.3
≥3000	28.7	50.1	51.7	53.1	54.6	54.9	55.3	55.7	55.7	55.7	55.7	55.7	55.7	55.7	55.7	55.9
≥2500	31.5	54.9	57.3	59.5	61.5	61.8	62.5	62.9	62.9	62.9	63.0	63.2	63.2	63.2	63.2	63.4
≥2000	31.9	58.2	61.0	63.7	66.2	67.0	68.1	68.8	68.8	68.8	69.0	69.2	69.2	69.2	69.2	69.4
≥1800	33.0	59.5	62.8	65.6	68.4	69.2	70.4	71.3	71.3	71.3	71.6	71.7	71.7	71.7	71.7	72.0
≥1500	35.0	64.9	68.1	71.6	75.4	76.4	78.2	79.4	79.6	79.8	80.1	80.2	80.2	80.2	80.2	80.5
≥1200	35.6	67.6	71.3	75.2	79.4	80.4	82.2	84.1	84.2	84.5	84.8	84.9	84.9	84.9	84.9	85.2
≥1000	36.0	69.3	73.4	77.3	81.7	82.9	84.9	87.0	87.2	87.6	88.1	88.3	88.4	88.4	88.4	88.7
≥900	36.5	69.4	73.6	77.4	81.8	83.0	85.0	87.3	87.4	87.9	88.7	88.8	88.9	88.9	88.9	89.2
≥800	36.2	70.2	75.0	79.2	83.6	84.9	86.9	89.2	89.3	89.9	90.8	90.9	91.1	91.1	91.1	91.3
≥700	36.3	71.2	76.1	80.5	85.0	86.5	88.7	90.9	91.1	91.6	92.5	92.8	93.1	93.1	93.1	93.3
≥600	36.3	71.2	76.1	80.5	85.0	86.5	88.7	91.1	91.2	91.7	92.7	92.9	93.2	93.2	93.2	93.5
≥500	36.3	71.3	76.4	80.9	85.4	86.9	89.2	91.9	92.0	92.5	93.6	94.0	94.3	94.3	94.3	94.5
≥400	36.3	71.4	76.6	81.6	86.2	88.0	90.4	93.1	93.2	93.7	94.8	95.2	95.5	95.5	95.5	95.7
≥300	36.3	71.4	76.6	81.6	86.2	88.0	90.4	93.1	93.5	94.1	95.2	95.7	96.5	96.5	96.5	96.8
≥200	36.3	71.4	76.6	81.6	86.4	88.1	90.7	93.7	94.3	95.1	96.3	96.9	97.9	97.9	98.5	98.9
≥100	36.3	71.4	76.8	81.7	86.5	88.3	90.8	93.9	94.4	95.2	96.4	97.1	98.0	98.1	99.1	100.0
≥0	36.3	71.4	76.8	81.7	86.5	88.3	90.8	93.9	94.4	95.2	96.4	97.1	98.0	98.1	99.1	100.0

TOTAL NUMBER OF OBSERVATIONS

149

JOINT CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

17-59 STATION PHELPS-COLLINS/ALPENA MI

73-81

FEB

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0900-1100

CEILING FEET	VISIBILITY STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2	≥2	≥1	≥1	≥1	≥1	≥1	≥1	≥1	≥1	≥1
NO CEILING	14.4	33.4	34.0	35.2	35.8	36.0	36.3	36.6	36.6	36.7	36.7	36.7	36.7	36.7	36.7	36.7
≥20000	21.5	37.5	38.3	39.2	39.8	40.0	40.6	40.8	40.8	41.0	41.0	41.0	41.0	41.0	41.0	41.0
≥18000	21.3	37.5	38.3	39.2	39.8	40.0	40.6	40.8	40.8	41.0	41.0	41.0	41.0	41.0	41.0	41.0
≥16000	21.3	37.5	38.3	39.2	39.8	40.0	40.6	40.8	40.8	41.0	41.0	41.0	41.0	41.0	41.0	41.0
≥14000	21.3	37.5	38.3	39.2	39.8	40.0	40.6	40.8	40.8	41.0	41.0	41.0	41.0	41.0	41.0	41.0
≥12000	21.4	38.2	39.0	39.9	40.4	40.7	41.2	41.5	41.5	41.6	41.6	41.6	41.6	41.6	41.6	41.6
≥10000	21.4	38.6	39.4	40.4	41.1	41.4	41.9	42.2	42.2	42.3	42.3	42.3	42.3	42.3	42.3	42.3
≥9000	22.1	39.1	39.9	41.0	41.6	41.9	42.4	42.7	42.7	42.8	42.8	42.8	42.8	42.8	42.8	42.8
≥8000	22.7	40.7	41.6	43.0	43.8	44.0	44.5	44.8	44.8	44.9	44.9	44.9	44.9	44.9	44.9	44.9
≥7000	23.1	41.8	42.7	44.0	44.9	45.2	45.7	46.1	46.1	46.3	46.3	46.3	46.3	46.3	46.3	46.3
≥6000	23.4	42.6	43.5	44.8	45.9	46.3	46.8	47.2	47.2	47.3	47.3	47.3	47.3	47.3	47.3	47.3
≥5000	24.1	44.1	45.2	46.8	48.0	48.4	48.9	49.3	49.3	49.5	49.5	49.5	49.5	49.5	49.5	49.5
≥4500	24.4	45.6	46.7	48.3	49.5	49.9	50.4	50.8	50.8	50.9	50.9	50.9	50.9	50.9	50.9	50.9
≥4000	25.3	46.3	47.3	48.9	50.1	50.5	51.2	51.6	51.6	51.7	51.7	51.7	51.7	51.7	51.7	51.7
≥3500	26.0	48.8	50.0	51.6	52.8	53.5	54.3	54.8	54.8	54.9	54.9	54.9	54.9	54.9	54.9	54.9
≥3000	27.8	50.4	51.7	53.3	54.8	55.5	56.4	56.9	56.9	57.0	57.2	57.2	57.2	57.2	57.2	57.2
≥2500	29.0	52.9	54.7	56.5	58.5	59.2	60.4	61.2	61.2	61.3	61.4	61.6	61.6	61.6	61.6	61.6
≥2000	30.5	56.1	58.0	60.4	62.9	64.0	65.8	67.2	67.3	68.1	68.2	68.4	68.5	68.5	68.5	68.5
≥1800	30.9	56.9	59.0	61.6	64.6	66.0	68.1	69.4	69.9	70.7	71.0	71.1	71.3	71.3	71.3	71.3
≥1500	33.1	61.3	64.1	67.4	71.4	73.7	76.3	77.7	78.2	79.5	80.2	80.3	80.6	80.6	80.6	80.6
≥1200	33.5	64.0	66.9	70.7	75.0	77.3	79.9	82.0	82.6	84.0	84.8	85.0	85.2	85.2	85.2	85.2
≥1000	34.2	65.7	68.9	72.9	77.3	79.5	82.2	84.7	85.5	87.2	88.3	88.4	88.8	88.8	88.8	88.8
≥900	34.2	66.4	69.5	73.7	78.1	80.3	83.1	85.8	86.6	88.4	89.6	89.8	90.2	90.2	90.2	90.2
≥800	34.2	66.8	69.9	74.3	79.1	81.6	84.6	87.4	88.3	90.2	91.9	92.0	92.4	92.4	92.4	92.4
≥700	34.2	67.0	70.2	75.0	79.8	82.7	85.8	88.6	89.5	91.4	93.1	93.2	93.6	93.6	93.6	93.6
≥600	34.2	67.4	70.7	75.7	80.7	83.6	86.8	89.6	90.6	92.4	94.4	94.7	95.2	95.2	95.2	95.2
≥500	34.2	67.4	70.7	75.7	80.9	83.8	87.0	89.9	90.8	93.0	95.1	95.3	96.0	96.0	96.1	96.1
≥400	34.2	67.4	70.7	75.8	81.1	84.2	87.4	90.3	91.5	93.6	95.9	96.3	97.2	97.2	97.3	97.3
≥300	34.2	67.4	70.7	75.8	81.1	84.3	87.5	90.7	91.9	94.0	96.7	97.1	98.0	98.0	98.3	98.3
≥200	34.2	67.4	70.7	75.8	81.1	84.4	87.6	90.8	92.2	94.4	97.2	97.6	98.7	98.8	99.5	99.5
≥100	34.2	67.4	70.7	75.8	81.1	84.4	87.6	90.8	92.2	94.4	97.2	97.6	98.7	98.8	99.5	99.5
≥0	34.2	67.4	70.7	75.8	81.1	84.4	87.6	90.8	92.2	94.4	97.2	97.6	98.7	98.9	99.6	100.0

TOTAL NUMBER OF OBSERVATIONS

752

USAF ETAC FORM 10-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

7-139
STATION

PHELPS-COLLINS/ALPENA MI

73-81

YEARS

FEB
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1200-1400
HOURS

CEILING FEET	VISIBILITY STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1	≥ .5	≥ .3	≥ .25	≥ .2	≥ .15	≥ .1	≥ 0
NO CEILING	19.4	31.1	32.4	32.5	32.5	32.7	32.8	33.1	33.1	33.1	33.1	33.1	33.1	33.1	33.1	33.1
≥ 20000	21.1	36.5	37.2	37.3	37.5	37.6	37.8	38.2	38.2	38.2	38.2	38.2	38.2	38.2	38.2	38.2
≥ 18000	21.7	36.8	37.6	37.8	37.9	38.0	38.2	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6
≥ 16000	21.7	36.8	37.6	37.8	37.9	38.0	38.2	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6
≥ 14000	22.1	37.5	38.3	38.4	38.6	38.7	38.8	39.2	39.2	39.2	39.2	39.2	39.2	39.2	39.2	39.2
≥ 12000	22.7	38.7	39.5	39.6	39.8	39.9	40.0	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.4
≥ 10000	23.4	40.0	40.8	41.0	41.1	41.2	41.4	41.8	41.8	41.8	41.8	41.8	41.8	41.8	41.8	41.8
≥ 9000	23.4	40.0	40.8	41.0	41.1	41.2	41.4	41.8	41.8	41.8	41.8	41.8	41.8	41.8	41.8	41.8
≥ 8000	23.7	40.8	41.6	41.8	42.0	42.2	42.3	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7
≥ 7000	24.4	41.5	42.4	42.6	43.0	43.1	43.2	43.6	43.6	43.6	43.6	43.6	43.6	43.6	43.6	43.6
≥ 6000	24.4	41.9	42.8	43.1	43.6	43.8	43.9	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3
≥ 5000	25.3	43.0	43.9	44.3	44.8	45.1	45.2	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6	45.6
≥ 4500	25.6	43.4	44.3	44.7	45.2	45.5	45.6	46.1	46.1	46.1	46.1	46.1	46.1	46.1	46.1	46.1
≥ 4000	26.1	44.2	45.1	45.6	46.2	46.5	46.6	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0
≥ 3500	27.1	46.1	47.0	47.5	48.1	48.3	48.5	48.9	48.9	48.9	48.9	48.9	48.9	48.9	48.9	48.9
≥ 3000	29.3	49.5	50.5	51.0	51.8	52.1	52.2	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6
≥ 2500	31.4	55.3	56.4	57.2	58.0	58.5	58.6	59.3	59.3	59.3	59.3	59.3	59.3	59.3	59.3	59.3
≥ 2000	34.1	61.6	63.2	64.8	66.4	67.2	67.7	69.1	69.1	69.1	69.1	69.1	69.1	69.1	69.1	69.1
≥ 1800	35.4	65.6	65.3	67.2	69.2	70.1	70.7	72.2	72.2	72.2	72.2	72.4	72.4	72.4	72.4	72.4
≥ 1500	37.5	68.3	71.0	74.4	76.8	78.2	78.8	80.9	81.0	81.3	81.5	81.5	81.7	81.7	81.7	81.7
≥ 1200	37.6	71.4	74.6	78.3	81.1	82.6	83.8	86.1	86.3	87.3	88.1	88.4	88.4	88.4	88.4	88.4
≥ 1000	37.4	72.6	76.2	80.3	83.4	84.9	86.3	88.8	89.0	90.0	90.9	91.0	91.3	91.3	91.3	91.3
≥ 900	38.1	72.7	76.6	80.9	84.1	85.5	87.5	90.1	90.4	91.3	92.2	92.4	92.6	92.6	92.6	92.6
≥ 800	37.7	72.8	76.7	81.1	84.9	86.3	88.1	91.0	91.3	92.2	93.3	93.6	93.8	93.8	93.8	93.8
≥ 700	38.1	72.8	76.7	81.4	85.4	87.1	89.0	92.0	92.2	93.2	94.6	94.9	95.2	95.2	95.2	95.2
≥ 600	38.0	72.8	76.7	81.4	85.5	87.4	89.3	92.2	92.5	93.6	95.3	95.7	96.0	96.0	96.0	96.0
≥ 500	38.0	73.0	76.8	81.5	85.7	87.6	89.6	92.6	92.9	94.1	95.9	96.4	96.8	96.8	96.8	96.8
≥ 400	38.0	73.0	76.8	81.5	85.8	88.0	90.1	93.3	93.8	95.0	96.9	97.5	97.9	97.9	97.9	97.9
≥ 300	38.1	73.0	77.0	81.7	85.9	88.1	90.2	93.6	94.1	95.4	97.5	97.9	98.8	98.8	98.8	98.8
≥ 200	38.1	73.0	77.0	81.7	85.9	88.1	90.4	93.7	94.2	95.9	97.7	98.3	99.2	99.3	99.5	99.5
≥ 100	38.1	73.0	77.0	81.7	85.9	88.1	90.4	93.7	94.2	96.0	97.9	98.4	99.3	99.5	99.6	99.9
≥ 0	38.0	73.0	77.0	81.7	85.9	88.1	90.4	93.7	94.2	96.0	97.9	98.4	99.3	99.6	99.7	100.0

TOTAL NUMBER OF OBSERVATIONS 747

USAF ETAC 1200-1400 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAL

CEILING VERSUS VISIBILITY

7263911
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

FEB
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1500-1700
HOURS (LST)

CEILING FEET	VISIBILITY - STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1.4	≥ 1	≥ .9	≥ .8	≥ .7	≥ .6	≥ .5	≥ 0
NO CEILING	23.2	34.9	35.3	35.6	35.7	35.8	35.8	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0
≥ 20000	21.6	42.2	42.9	43.1	43.3	43.4	43.4	43.7	43.7	43.7	43.7	43.7	43.7	43.7	43.7	43.7
IV 18000	21.6	42.3	43.0	43.3	43.4	43.5	43.5	43.8	43.8	43.8	43.8	43.8	43.8	43.8	43.8	43.8
IV 16000	27.6	42.3	43.0	43.3	43.4	43.5	43.5	43.8	43.8	43.8	43.8	43.8	43.8	43.8	43.8	43.8
IV 14000	27.6	42.6	43.3	43.5	43.7	43.8	43.8	44.1	44.1	44.2	44.2	44.2	44.2	44.2	44.2	44.2
IV 12000	27.9	43.0	43.7	43.9	44.1	44.2	44.2	44.5	44.5	44.6	44.6	44.6	44.6	44.6	44.6	44.6
IV 10000	24.8	45.4	46.1	46.4	46.5	46.6	46.6	47.0	47.0	47.2	47.2	47.2	47.2	47.2	47.2	47.2
IV 9000	24.2	45.5	46.5	46.8	46.9	47.0	47.0	47.4	47.4	47.6	47.6	47.6	47.6	47.6	47.6	47.6
IV 8000	29.9	46.4	47.4	47.8	48.1	48.2	48.2	48.7	48.7	48.8	48.8	48.8	48.8	48.8	48.8	48.8
IV 7000	30.5	47.3	48.0	48.5	48.8	48.9	48.9	49.3	49.3	49.5	49.5	49.5	49.5	49.5	49.5	49.5
IV 6000	30.5	47.4	48.1	48.7	48.9	49.1	49.1	49.5	49.5	49.6	49.6	49.6	49.6	49.6	49.6	49.6
IV 5000	30.7	48.5	49.2	49.7	50.1	50.3	50.3	50.7	50.7	50.8	50.8	50.8	50.8	50.8	50.8	50.8
IV 4500	31.1	49.3	50.0	50.5	50.9	51.1	51.1	51.5	51.5	51.6	51.6	51.6	51.6	51.6	51.6	51.6
IV 4000	31.1	49.7	50.4	50.9	51.3	51.5	51.5	51.9	51.9	52.0	52.0	52.0	52.0	52.0	52.0	52.0
IV 3500	32.3	51.3	52.2	52.7	53.2	53.4	53.4	53.8	53.8	53.9	53.9	53.9	53.9	53.9	53.9	53.9
IV 3000	34.9	55.8	57.1	57.7	58.2	58.4	58.4	58.8	58.8	58.9	58.9	58.9	58.9	58.9	58.9	58.9
IV 2500	39.2	63.9	65.5	66.4	67.1	67.3	67.3	67.7	67.8	68.1	68.1	68.1	68.1	68.1	68.1	68.1
IV 2000	41.2	68.1	70.9	72.2	73.5	73.7	74.3	74.7	74.8	75.2	75.2	75.2	75.2	75.2	75.2	75.2
IV 1800	42.2	70.4	73.3	74.8	76.3	76.5	77.2	77.8	77.9	78.3	78.4	78.4	78.4	78.4	78.4	78.4
IV 1500	43.4	74.0	77.2	79.6	82.1	82.5	83.3	84.6	84.9	85.4	86.0	86.0	86.0	86.0	86.0	86.0
IV 1200	43.7	74.8	78.2	81.0	84.0	84.4	85.2	87.1	87.3	87.9	88.8	88.8	88.8	88.8	88.9	88.9
IV 1000	44.1	76.0	79.5	82.5	85.4	85.8	86.8	88.9	89.4	91.0	92.5	92.5	92.5	92.6	92.6	92.6
IV 900	44.2	76.1	79.6	83.2	86.3	86.7	87.6	89.8	90.2	91.8	93.4	93.4	93.4	93.5	93.5	93.5
IV 800	44.3	76.5	80.3	84.0	87.1	87.6	88.5	90.7	91.1	92.9	94.6	94.9	95.0	95.1	95.1	95.1
IV 700	44.3	76.5	80.5	84.1	87.3	87.9	88.8	91.1	91.5	93.3	95.0	95.3	95.4	95.6	95.6	95.6
IV 600	44.3	76.5	80.6	84.2	87.5	88.3	89.2	91.6	92.0	93.8	95.7	96.1	96.2	96.4	96.4	96.4
IV 500	44.3	76.7	80.7	84.4	87.6	88.4	89.4	91.9	92.5	94.2	96.5	96.9	97.3	97.4	97.4	97.4
IV 400	44.3	76.7	80.7	84.4	87.9	88.7	89.6	92.3	92.9	94.6	97.0	97.4	97.8	98.0	98.0	98.0
IV 300	44.3	76.7	80.7	84.4	87.9	88.7	89.6	92.3	92.9	94.6	97.0	97.4	97.8	98.1	98.2	98.2
IV 200	44.3	76.7	80.7	84.4	87.9	88.7	89.6	92.3	92.9	94.6	97.2	97.6	98.1	98.5	98.9	98.9
IV 100	44.3	76.7	80.7	84.4	87.9	88.7	89.6	92.3	92.9	94.6	97.2	97.6	98.1	98.5	99.1	99.6
IV 0	44.3	76.7	80.7	84.4	87.9	88.7	89.6	92.3	92.9	94.6	97.2	97.6	98.1	98.5	99.1	100.0

TOTAL NUMBER OF OBSERVATIONS 742

USAF ETAC FORM 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAL

CEILING VERSUS VISIBILITY

726391
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

FLS
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1800-2000
HOURS

CEILING FEET	VISIBILITY - STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1.4	≥1	≥.5	≥.4	≥.3	≥.25	≥.2	≥.1
NO CEILING	24.6	47.4	40.9	41.2	41.2	41.3	41.7	41.7	41.7	41.7	41.7	41.7	41.7	41.7	41.7	41.7
≥ 20000	27.6	45.4	45.9	46.5	46.5	46.6	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0
IV 18000	27.4	45.7	46.2	46.7	46.7	46.9	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3
IV 16000	27.4	45.7	46.2	46.7	46.7	46.9	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3
IV 14000	27.9	45.7	46.2	46.7	46.7	46.9	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3
IV 12000	28.8	47.1	47.8	48.4	48.4	48.5	49.0	49.0	49.0	49.0	49.0	49.0	49.0	49.0	49.0	49.0
IV 10000	29.2	48.2	48.9	49.5	49.5	49.6	50.1	50.1	50.1	50.1	50.1	50.1	50.1	50.1	50.1	50.1
IV 9000	29.3	48.9	49.6	50.1	50.1	50.3	50.8	50.8	50.8	50.8	50.8	50.8	50.8	50.8	50.8	50.8
IV 8000	31.0	51.0	51.6	52.3	52.3	52.6	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1
IV 7000	31.7	52.3	53.0	53.7	53.7	53.9	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5
IV 6000	32.1	53.3	53.9	54.6	54.6	54.9	55.4	55.4	55.4	55.4	55.4	55.4	55.4	55.4	55.4	55.4
IV 5000	32.3	54.5	55.2	55.8	55.8	56.1	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7
IV 4500	33.4	56.5	57.2	57.9	57.9	58.2	58.7	58.7	58.7	58.7	58.7	58.7	58.7	58.7	58.7	58.7
IV 4000	33.4	57.3	58.0	58.7	58.7	59.0	59.5	59.5	59.5	59.5	59.5	59.5	59.5	59.5	59.5	59.5
IV 3500	35.4	60.2	60.9	61.7	61.7	62.0	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5
IV 3000	37.2	63.0	64.1	65.2	65.8	66.0	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7
IV 2500	39.5	68.1	69.6	71.1	71.9	72.1	72.8	73.1	73.2	73.2	73.2	73.2	73.2	73.2	73.2	73.2
IV 2000	40.6	71.2	73.8	75.4	76.4	76.6	77.4	77.7	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9
IV 1800	41.6	73.1	75.7	77.6	78.5	78.8	79.8	80.2	80.3	80.3	80.3	80.3	80.3	80.3	80.3	80.3
IV 1500	42.4	77.0	79.9	82.3	83.6	84.1	85.3	85.9	86.0	86.1	86.1	86.1	86.1	86.1	86.1	86.1
IV 1200	43.2	78.5	81.5	84.0	85.5	86.4	88.2	88.9	89.0	89.1	89.3	89.3	89.3	89.3	89.3	89.3
IV 1000	43.6	79.5	82.7	85.3	87.2	88.6	90.5	91.3	91.4	92.1	92.4	92.5	92.5	92.5	92.5	92.5
IV 900	43.6	79.8	83.0	85.6	87.6	89.0	91.0	91.8	92.0	92.8	93.1	93.2	93.2	93.2	93.2	93.2
IV 800	43.4	80.2	83.6	86.1	88.3	89.7	91.7	92.5	92.7	93.6	94.2	94.3	94.3	94.3	94.3	94.3
IV 700	43.4	80.4	83.6	86.3	88.5	89.9	92.3	93.1	93.3	94.4	95.0	95.1	95.1	95.1	95.1	95.1
IV 600	43.3	80.3	83.7	86.4	88.6	90.2	92.5	93.5	93.8	94.8	95.8	96.2	96.2	96.2	96.2	96.2
IV 500	43.9	80.4	83.8	86.5	88.7	90.4	92.7	93.8	94.0	95.2	96.2	96.6	96.9	96.9	96.9	96.9
IV 400	43.8	80.6	84.1	86.8	89.3	90.9	93.3	94.4	94.7	96.1	97.1	97.6	98.0	98.1	98.1	98.1
IV 300	43.9	80.6	84.1	86.8	89.3	90.9	93.5	95.0	95.2	96.7	97.8	98.2	98.6	98.8	98.8	98.8
IV 200	43.8	80.6	84.1	86.8	89.3	91.0	93.9	95.4	95.7	97.1	98.2	98.6	99.0	99.3	99.5	99.5
IV 100	43.3	80.6	84.1	86.8	89.3	91.0	93.9	95.4	95.7	97.1	98.2	98.6	99.0	99.3	99.9	100.0
IV 0	43.8	80.6	84.1	86.8	89.3	91.0	93.9	95.4	95.7	97.1	98.2	98.6	99.0	99.3	99.9	100.0

TOTAL NUMBER OF OBSERVATIONS 736

USAF ETAC

FORM
NO 64

0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

10659
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

13-81
YEARS

FEB
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

2100-2300
HOURS

CEILING FEET	VISIBILITY STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1.4	≥1	≥.9	≥.8	≥.7	≥.6	≥.5	≥.4
NO CEILING	25.3	43.2	43.5	43.5	43.6	43.6	43.7	43.7	43.7	43.7	43.7	43.7	43.7	43.7	43.7	43.7
≥ 20000	26.5	45.9	46.2	46.3	46.4	46.4	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.6
IV 18000	26.5	45.9	46.2	46.3	46.4	46.4	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.6
IV 16000	26.5	45.9	46.2	46.3	46.4	46.4	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.6
IV 14000	26.5	46.0	46.3	46.4	46.6	46.6	46.7	46.7	46.7	46.7	46.7	46.7	46.7	46.7	46.7	46.7
IV 12000	26.9	46.4	46.7	46.8	47.0	47.0	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1
IV 10000	27.5	47.4	47.6	47.9	48.0	48.0	48.2	48.2	48.2	48.2	48.2	48.2	48.2	48.2	48.2	48.2
IV 9000	27.5	47.8	48.0	48.3	48.5	48.5	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6
IV 8000	28.8	49.1	49.4	49.7	49.8	49.8	49.9	49.9	49.9	49.9	49.9	49.9	49.9	49.9	49.9	49.9
IV 7000	29.9	50.3	50.6	50.9	51.1	51.1	51.3	51.3	51.3	51.3	51.3	51.3	51.3	51.3	51.3	51.3
IV 6000	30.0	50.9	51.1	51.4	51.7	51.7	51.8	51.8	51.8	51.8	51.8	51.8	51.8	51.8	51.8	51.8
IV 5000	30.3	52.4	52.6	53.0	53.3	53.3	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4
IV 4500	31.2	55.0	56.0	56.4	56.7	56.7	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8
IV 4000	31.4	55.9	56.8	57.2	57.5	57.5	57.6	57.6	57.6	57.6	57.6	57.6	57.6	57.6	57.6	57.6
IV 3500	33.4	59.4	60.4	60.8	61.1	61.1	61.2	61.2	61.2	61.2	61.2	61.2	61.2	61.2	61.2	61.2
IV 3000	35.7	63.8	65.0	65.8	66.6	66.6	66.9	66.9	66.9	66.9	66.9	66.9	66.9	66.9	66.9	66.9
IV 2500	37.3	66.2	67.7	68.8	70.0	70.1	70.3	70.3	70.3	70.3	70.3	70.3	70.3	70.3	70.3	70.3
IV 2000	38.2	70.3	72.1	73.6	75.6	75.9	76.6	76.6	76.6	76.6	76.6	76.6	76.6	76.6	76.6	76.6
IV 1800	38.5	71.9	74.0	75.5	77.9	78.2	79.1	79.1	79.1	79.1	79.1	79.1	79.1	79.1	79.1	79.1
IV 1500	39.3	76.6	79.4	81.7	84.3	84.7	86.1	86.3	86.3	86.4	86.4	86.4	86.4	86.4	86.4	86.4
IV 1200	39.7	78.1	81.2	83.6	86.5	87.1	88.6	88.7	88.7	88.8	88.8	88.8	88.8	88.8	88.8	88.8
IV 1000	40.0	78.7	82.4	85.1	88.3	88.8	90.6	91.0	91.1	91.4	91.4	91.5	91.5	91.5	91.5	91.5
IV 900	40.0	79.1	82.8	85.5	88.7	89.2	91.1	91.5	91.7	91.9	91.9	92.1	92.1	92.1	92.1	92.1
IV 800	40.0	79.5	83.2	85.9	89.1	89.8	91.7	92.5	92.6	93.0	93.0	93.1	93.1	93.1	93.1	93.1
IV 700	40.2	80.1	83.7	86.4	89.6	90.4	92.3	93.1	93.4	94.2	94.2	94.3	94.3	94.3	94.3	94.3
IV 600	40.2	80.1	83.8	86.8	90.3	91.5	93.4	94.2	94.5	95.6	95.6	95.7	95.7	95.7	95.7	95.7
IV 500	40.2	80.1	84.0	87.1	90.6	91.8	93.7	94.9	95.2	96.5	96.8	96.9	97.0	97.0	97.0	97.0
IV 400	40.2	80.1	84.0	87.3	90.8	92.1	93.9	95.2	95.4	96.8	97.2	97.3	97.4	97.7	97.7	97.7
IV 300	40.2	80.1	84.0	87.6	91.3	92.5	94.3	95.7	96.0	97.4	98.0	98.1	98.3	98.5	98.7	98.7
IV 200	40.2	80.1	84.0	87.6	91.3	92.5	94.3	95.7	96.0	97.6	98.1	98.3	98.5	98.8	98.9	98.9
IV 100	40.2	80.1	84.0	87.6	91.3	92.5	94.3	95.7	96.0	97.6	98.5	98.7	98.9	99.2	99.3	99.5
IV 0	40.2	80.1	84.0	87.6	91.3	92.5	94.3	95.7	96.0	97.6	98.5	98.7	98.9	99.2	99.3	100.0

TOTAL NUMBER OF OBSERVATIONS 743

USAF ETAC FORM 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

(2239)
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

FEB
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

ALL
HOURS (LST)

CEILING FEET	VISIBILITY - STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1.4	≥1	≥.4	≥.3	≥.25	≥.2	≥.16	≥.1
NO CEILING	21.7	36.2	36.9	37.2	37.6	37.7	37.8	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.1
≥ 20000	24.0	40.0	40.8	41.2	41.6	41.7	41.9	42.1	42.1	42.2	42.2	42.2	42.2	42.2	42.2	42.2
IV 18000	24.0	40.1	40.9	41.4	41.8	41.9	42.0	42.2	42.3	42.3	42.3	42.3	42.3	42.3	42.3	42.3
16000	24.0	40.1	40.9	41.4	41.8	41.9	42.0	42.2	42.3	42.3	42.3	42.3	42.3	42.3	42.3	42.3
IV 14000	24.1	40.3	41.1	41.6	42.0	42.1	42.2	42.4	42.5	42.5	42.5	42.5	42.5	42.5	42.5	42.6
IV 12000	24.0	41.0	41.8	42.3	42.7	42.8	43.0	43.2	43.2	43.3	43.3	43.3	43.3	43.3	43.3	43.3
IV 10000	25.0	42.1	42.9	43.4	43.8	44.0	44.2	44.4	44.4	44.4	44.4	44.4	44.4	44.4	44.4	44.5
9000	25.2	42.4	43.3	43.8	44.2	44.3	44.5	44.8	44.8	44.8	44.8	44.8	44.8	44.8	44.8	44.9
IV 8000	26.3	44.1	45.0	45.5	46.0	46.1	46.3	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.7
IV 7000	26.4	45.1	46.0	46.6	47.2	47.3	47.5	47.7	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.9
IV 6000	27.2	45.8	46.7	47.3	47.9	48.0	48.3	48.5	48.5	48.5	48.5	48.5	48.5	48.6	48.6	48.6
5000	28.5	47.6	48.6	49.3	50.0	50.2	50.4	50.6	50.6	50.7	50.7	50.7	50.7	50.7	50.7	50.7
IV 4500	28.7	49.0	50.2	50.9	51.6	51.8	52.0	52.3	52.3	52.3	52.3	52.3	52.4	52.4	52.4	52.4
4000	29.1	49.9	51.1	51.9	52.6	52.8	53.0	53.3	53.3	53.4	53.4	53.4	53.4	53.4	53.4	53.4
IV 3500	30.6	52.3	53.6	54.4	55.2	55.5	55.7	56.0	56.0	56.0	56.0	56.0	56.1	56.1	56.1	56.1
IV 3000	32.7	56.1	57.7	58.7	59.7	59.9	60.2	60.5	60.5	60.6	60.6	60.6	60.6	60.6	60.6	60.6
IV 2500	34.8	60.8	62.8	64.1	65.3	65.6	66.0	66.4	66.5	66.5	66.5	66.6	66.6	66.6	66.6	66.6
IV 2000	36.5	65.0	67.7	69.4	71.1	71.6	72.4	72.9	73.0	73.2	73.2	73.2	73.3	73.3	73.3	73.3
IV 1800	37.2	66.7	69.5	71.4	73.4	73.9	74.9	75.5	75.7	75.8	75.9	76.0	76.0	76.0	76.0	76.0
IV 1500	38.6	71.1	74.4	77.0	79.7	80.5	81.8	82.8	83.0	83.3	83.6	83.6	83.7	83.7	83.7	83.7
IV 1200	39.1	73.3	77.0	79.8	82.8	83.7	85.1	86.4	86.6	87.1	87.5	87.5	87.6	87.6	87.7	87.7
IV 1000	39.4	74.5	78.6	81.7	84.9	85.9	87.5	89.1	89.3	90.1	90.6	90.7	90.8	90.9	90.9	90.9
IV 900	39.4	74.8	78.9	82.1	85.4	86.4	88.1	89.8	90.0	90.8	91.4	91.5	91.7	91.7	91.7	91.7
IV 800	39.5	75.2	79.5	82.8	86.2	87.3	89.1	90.8	91.1	92.0	92.7	92.9	93.0	93.0	93.0	93.1
IV 700	39.6	75.6	79.9	83.4	86.9	88.2	90.0	91.8	92.1	93.1	93.9	94.0	94.2	94.2	94.2	94.3
IV 600	39.6	75.7	80.1	83.7	87.4	88.7	90.6	92.4	92.7	93.8	94.7	95.0	95.1	95.2	95.2	95.2
IV 500	39.6	75.8	80.2	83.9	87.6	89.0	90.9	93.0	93.3	94.5	95.7	96.0	96.3	96.3	96.3	96.4
IV 400	39.6	75.9	80.3	84.2	88.0	89.5	91.6	93.6	94.1	95.3	96.6	96.9	97.3	97.4	97.4	97.4
IV 300	39.6	75.9	80.4	84.3	88.1	89.7	91.8	94.0	94.5	95.8	97.1	97.4	98.0	98.1	98.2	98.2
IV 200	39.6	75.9	80.4	84.3	88.2	89.7	92.0	94.2	94.8	96.2	97.7	98.0	98.6	98.8	99.1	99.2
IV 100	39.6	75.9	80.4	84.3	88.2	89.7	92.0	94.3	94.8	96.3	97.8	98.1	98.8	99.0	99.4	99.8
IV 0	39.6	75.9	80.4	84.3	88.2	89.7	92.0	94.3	94.8	96.3	97.8	98.1	98.8	99.0	99.5	100.0

TOTAL NUMBER OF OBSERVATIONS 5953

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

726390
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

MAR
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0000-0200
HOURS

CEILING FEET	VISIBILITY - STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1	≥ .5	≥ .3	≥ .25	≥ .2	≥ .15	≥ .1	≥ 0
NO CEILING	23.4	38.1	39.4	39.9	41.3	41.3	41.5	41.6	41.6	41.8	41.9	41.9	41.9	41.9	42.1	42.2
≥ 20000	24.5	40.5	41.9	41.9	43.2	43.2	43.5	43.6	43.6	43.7	43.8	43.8	43.8	43.8	44.1	44.2
IV 18000	24.5	40.8	42.1	42.1	43.5	43.5	43.7	43.8	43.8	44.0	44.1	44.1	44.1	44.1	44.3	44.4
IV 16000	24.5	40.8	42.1	42.1	43.5	43.5	43.7	43.8	43.8	44.0	44.1	44.1	44.1	44.1	44.3	44.4
IV 14000	24.5	41.0	42.4	42.4	43.7	43.7	44.0	44.1	44.1	44.2	44.3	44.3	44.3	44.3	44.6	44.7
IV 12000	24.5	41.3	42.7	42.7	44.1	44.1	44.3	44.4	44.4	44.6	44.7	44.7	44.7	44.7	44.9	45.1
IV 10000	25.2	41.6	43.1	43.1	44.4	44.4	44.7	44.8	44.8	44.9	45.1	45.1	45.1	45.1	45.3	45.4
IV 9000	25.2	42.5	44.0	44.0	45.3	45.3	45.5	45.7	45.7	45.8	45.9	45.9	45.9	45.9	46.2	46.3
IV 8000	27.4	44.1	45.5	45.5	46.9	46.9	47.1	47.3	47.3	47.4	47.5	47.5	47.5	47.5	47.7	47.9
IV 7000	28.4	45.8	47.3	47.3	48.6	48.6	48.8	49.0	49.0	49.1	49.2	49.2	49.2	49.2	49.5	49.6
IV 6000	28.7	46.8	48.2	48.2	49.6	49.6	49.8	49.9	49.9	50.1	50.2	50.2	50.2	50.2	50.4	50.5
IV 5000	30.3	47.6	51.0	51.0	52.4	52.4	52.6	52.7	52.7	52.9	53.0	53.0	53.0	53.0	53.2	53.4
IV 4500	31.5	51.0	52.6	52.7	54.1	54.1	54.3	54.5	54.5	54.6	54.7	54.7	54.7	54.7	54.9	55.1
IV 4000	31.7	51.4	53.1	53.2	54.6	54.6	54.8	54.9	54.9	55.1	55.2	55.2	55.2	55.2	55.4	55.6
IV 3500	34.2	54.8	56.7	56.9	58.2	58.4	58.6	58.7	58.7	58.9	59.0	59.0	59.0	59.0	59.2	59.3
IV 3000	35.9	58.2	60.3	60.9	62.4	62.5	62.8	62.9	62.9	63.0	63.1	63.1	63.1	63.1	63.4	63.5
IV 2500	38.3	63.1	65.6	66.5	68.3	68.5	68.9	69.1	69.1	69.2	69.4	69.4	69.4	69.4	69.6	69.7
IV 2000	39.4	66.4	69.2	70.5	72.3	72.5	73.0	73.3	73.3	73.5	73.6	73.6	73.6	73.6	73.9	74.0
IV 1800	40.5	68.8	70.8	72.0	73.9	74.1	74.6	74.8	74.8	75.1	75.2	75.2	75.2	75.2	75.5	75.6
IV 1500	42.1	71.2	74.6	76.1	78.4	78.9	79.5	79.7	79.7	80.0	80.1	80.1	80.1	80.1	80.3	80.5
IV 1200	42.2	72.0	75.8	77.4	80.1	80.6	81.2	81.4	81.4	81.7	81.8	81.8	81.8	81.8	82.1	82.2
IV 1000	42.2	73.7	78.0	80.5	83.5	84.0	84.9	85.3	85.3	85.6	86.0	86.0	86.0	86.0	86.2	86.3
IV 900	42.2	74.1	78.4	81.0	84.0	84.6	85.6	86.1	86.1	86.3	86.8	86.8	86.8	86.8	87.1	87.2
IV 800	42.2	74.6	78.9	81.8	85.0	85.6	86.6	87.1	87.1	87.4	87.9	87.9	87.9	87.9	88.2	88.3
IV 700	42.2	75.0	79.2	82.2	85.5	86.1	87.2	87.7	87.7	88.0	88.5	88.5	88.5	88.5	88.8	88.9
IV 600	42.2	75.1	79.5	82.5	86.2	86.8	87.9	88.4	88.4	88.9	89.5	89.5	89.5	89.5	89.7	89.9
IV 500	42.2	75.6	80.1	83.5	87.5	88.2	89.6	90.5	90.5	91.1	91.7	91.8	91.8	91.8	92.2	92.3
IV 400	42.2	75.6	80.3	84.0	88.2	88.8	90.6	91.7	91.7	92.4	93.0	93.2	93.3	93.3	93.5	93.7
IV 300	42.2	75.7	80.6	84.2	88.4	89.0	90.8	92.3	92.3	93.2	93.9	94.0	94.1	94.1	94.4	94.5
IV 200	42.2	75.7	81.2	85.0	89.4	90.0	91.9	93.5	93.5	94.6	95.6	95.7	96.0	96.0	96.3	96.5
IV 100	42.2	75.7	81.3	85.1	89.6	90.2	92.2	93.9	93.9	95.0	96.1	96.2	96.8	96.9	97.8	98.5
IV 0	42.2	75.7	81.3	85.1	89.6	90.2	92.2	93.9	93.9	95.0	96.1	96.2	96.8	96.9	97.8	100.0

TOTAL NUMBER OF OBSERVATIONS 819

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
ALT WEATHER SERVICE/MAL

CEILING VERSUS VISIBILITY

126392
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEAR

PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

CEILING FEET	VISIBILITY (STATUTE MILES)															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1.25	≥1	≥.75	≥.5	≥.25	≥.16	≥.1	≥.05
NO CEILING	20.6	35.8	36.2	36.9	37.2	37.3	37.8	37.9	38.0	38.0	38.0	38.0	38.0	38.3	38.3	38.3
≥ 20000	22.1	38.2	38.5	39.3	39.5	39.6	40.1	40.2	40.4	40.4	40.4	40.4	40.4	40.6	40.6	40.6
IV 18000	22.1	38.2	38.5	39.3	39.5	39.6	40.1	40.2	40.4	40.4	40.4	40.4	40.4	40.6	40.6	40.6
IV 16000	22.1	38.2	38.5	39.3	39.5	39.6	40.1	40.2	40.4	40.4	40.4	40.4	40.4	40.6	40.6	40.6
IV 14000	22.1	38.4	38.8	39.5	39.8	39.9	40.4	40.5	40.6	40.6	40.6	40.6	40.6	40.9	40.9	40.9
IV 12000	22.3	38.8	39.1	39.9	40.1	40.2	40.7	40.9	41.0	41.0	41.0	41.0	41.0	41.2	41.2	41.2
IV 10000	22.8	39.3	39.9	40.6	40.9	41.0	41.5	41.6	41.7	41.7	41.7	41.7	41.7	42.0	42.0	42.0
IV 9000	23.2	39.6	40.2	41.0	41.2	41.3	41.8	42.0	42.1	42.1	42.1	42.1	42.1	42.3	42.3	42.3
IV 8000	23.4	40.0	41.3	42.1	42.3	42.5	42.9	43.1	43.2	43.2	43.2	43.2	43.2	43.4	43.4	43.4
IV 7000	25.0	42.1	42.5	43.6	43.8	43.9	44.4	44.5	44.7	44.7	44.7	44.7	44.7	44.9	44.9	44.9
IV 6000	25.3	42.8	43.6	44.3	44.5	44.7	45.2	45.3	45.4	45.4	45.4	45.4	45.4	45.6	45.6	45.6
IV 5000	26.4	45.2	46.0	47.0	47.2	47.4	47.9	48.0	48.1	48.1	48.1	48.1	48.1	48.3	48.3	48.3
IV 4500	27.6	47.1	48.1	49.1	49.4	49.6	50.1	50.2	50.3	50.3	50.3	50.3	50.3	50.6	50.6	50.6
IV 4000	28.4	48.5	49.0	50.0	51.0	51.2	51.7	51.8	51.9	51.9	51.9	51.9	51.9	52.1	52.1	52.1
IV 3500	30.1	50.4	52.0	53.0	53.5	53.6	54.1	54.2	54.4	54.4	54.4	54.4	54.4	54.6	54.6	54.6
IV 3000	32.1	53.7	54.8	56.3	56.8	56.9	57.4	57.5	57.7	57.8	57.8	57.8	57.8	58.0	58.0	58.0
IV 2500	34.5	58.7	60.2	62.1	62.7	62.8	63.4	63.6	63.7	64.0	64.0	64.0	64.0	64.3	64.3	64.3
IV 2000	37.5	64.8	66.9	69.0	70.3	70.6	71.4	71.5	71.7	72.0	72.0	72.0	72.0	72.3	72.3	72.3
IV 1800	38.5	66.9	69.1	71.3	72.8	73.0	73.9	74.1	74.2	74.6	74.6	74.6	74.6	74.8	74.8	74.8
IV 1500	40.0	70.2	72.8	75.1	76.9	77.2	78.3	78.8	78.9	79.3	79.3	79.3	79.3	79.5	79.5	79.5
IV 1200	40.2	71.5	74.1	76.7	78.9	79.1	80.4	81.1	81.2	81.6	81.6	81.6	81.6	81.8	81.8	81.8
IV 1000	40.3	73.1	76.1	79.1	81.7	82.0	83.2	84.0	84.2	84.9	85.0	85.0	85.0	85.3	85.3	85.3
IV 900	41.1	73.5	76.4	79.8	82.5	82.7	83.9	84.8	84.9	85.6	85.8	85.8	85.8	86.0	86.0	86.0
IV 800	41.7	73.9	76.9	80.6	83.6	83.8	85.0	85.9	86.1	87.1	87.2	87.2	87.2	87.5	87.5	87.5
IV 700	41.4	74.1	77.3	81.3	84.3	84.5	86.0	87.0	87.2	88.5	88.6	88.6	88.6	88.8	88.8	88.8
IV 600	41.1	74.2	77.5	81.6	84.7	84.9	86.4	87.4	87.6	89.0	89.1	89.1	89.1	89.3	89.3	89.3
IV 500	41.1	74.4	77.8	82.2	85.5	85.8	87.6	88.7	89.0	90.4	90.6	90.6	90.6	90.8	90.8	90.8
IV 400	41.1	74.5	78.0	82.7	86.4	86.6	88.5	89.7	89.9	91.8	92.1	92.1	92.1	92.4	92.4	92.4
IV 300	41.1	74.5	78.2	83.1	87.0	87.4	89.4	90.9	91.2	93.0	93.4	93.5	93.5	93.7	93.7	93.7
IV 200	41.1	74.6	78.7	83.7	87.7	88.2	90.4	91.9	92.1	94.0	94.8	95.0	95.0	95.2	95.2	95.2
IV 100	41.1	74.6	78.8	83.8	88.0	88.6	90.9	92.8	93.0	95.1	96.0	96.2	96.2	96.6	96.7	96.7
IV 0	41.1	74.6	78.8	83.8	88.0	88.6	90.9	92.8	93.0	95.1	96.0	96.2	96.2	96.6	96.7	96.7

TOTAL NUMBER OF OBSERVATIONS 815

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
ALBANY WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

16590
STATION

PHILIPS-COLLINS/ALPENA MI

75-81

YEARS

MAP

PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

0600-0000
HOURS 1571

CEILING FEET	VISIBILITY STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1.0	≥ 0.5	≥ 0.25	≥ 0.15	≥ 0.10	≥ 0.05	≥ 0.025	≥ 0.01
NO CEILING	20.1	34.1	35.4	36.3	37.0	37.3	37.4	37.5	37.5	37.8	38.0	38.0	38.1	38.1	38.1	38.2
≥ 20000	21.9	36.3	37.6	38.5	39.2	39.5	39.6	39.8	39.8	40.1	40.4	40.4	40.6	40.6	40.6	40.8
≥ 18000	21.4	36.3	37.6	38.5	39.2	39.5	39.6	39.8	39.8	40.1	40.4	40.4	40.6	40.6	40.6	40.8
≥ 16000	21.4	36.3	37.6	38.5	39.2	39.5	39.6	39.8	39.8	40.1	40.4	40.4	40.6	40.6	40.6	40.8
≥ 14000	21.4	36.4	37.8	38.6	39.3	39.6	39.7	40.0	40.0	40.2	40.6	40.6	40.7	40.7	40.7	40.9
≥ 12000	21.9	36.8	38.1	39.0	39.7	40.0	40.1	40.3	40.3	40.6	40.9	40.9	41.0	41.0	41.0	41.3
≥ 10000	22.5	37.9	39.3	40.4	41.7	41.9	42.0	42.3	42.3	42.6	43.0	43.0	43.1	43.1	43.1	43.4
≥ 9000	22.5	37.9	39.3	40.4	41.7	41.9	42.0	42.3	42.3	42.6	43.0	43.0	43.1	43.1	43.1	43.4
≥ 8000	23.6	37.3	40.8	41.9	43.1	43.4	43.5	43.7	43.7	44.1	44.5	44.5	44.6	44.6	44.6	44.8
≥ 7000	24.1	40.3	41.8	42.9	44.1	44.3	44.5	44.7	44.7	45.1	45.4	45.4	45.6	45.6	45.6	45.8
≥ 6000	24.2	41.2	42.6	43.7	44.9	45.2	45.3	45.6	45.6	45.9	46.3	46.3	46.4	46.4	46.4	46.7
≥ 5000	25.6	43.2	44.8	45.9	47.1	47.5	47.7	48.0	48.0	48.4	48.7	48.7	48.8	49.1	49.1	49.3
≥ 4500	26.9	44.7	46.3	47.5	48.8	49.3	49.7	49.9	49.9	50.4	50.8	50.8	50.9	51.2	51.2	51.4
≥ 4000	27.3	45.3	46.9	48.1	49.6	50.1	50.4	50.7	50.7	51.2	51.5	51.5	51.6	51.9	51.9	52.1
≥ 3500	27.6	46.6	50.3	51.8	53.5	54.2	54.7	54.9	54.9	55.4	55.8	55.8	55.9	56.2	56.2	56.4
≥ 3000	30.4	51.2	53.1	54.6	56.3	57.0	57.5	57.9	57.9	58.3	58.7	58.7	58.8	59.1	59.1	59.3
≥ 2500	32.6	55.1	57.0	59.2	61.6	62.5	63.0	63.5	63.5	63.9	64.4	64.4	64.6	64.8	64.8	65.0
≥ 2000	34.0	58.6	60.7	62.9	65.9	66.7	67.4	67.8	67.8	68.3	68.8	68.8	68.9	69.2	69.2	69.4
≥ 1800	34.2	59.9	62.4	64.6	68.0	68.8	69.4	69.9	69.9	70.4	70.9	70.9	71.0	71.3	71.3	71.5
≥ 1500	35.4	62.6	65.0	67.6	72.1	73.4	74.3	75.6	75.8	76.5	77.1	77.2	77.3	77.6	77.6	77.8
≥ 1200	35.4	64.9	67.5	70.2	75.2	76.5	77.7	79.2	79.4	80.1	80.9	81.1	81.2	81.5	81.5	81.7
≥ 1000	36.7	66.5	69.1	71.9	77.2	78.7	80.1	82.1	82.3	83.1	84.0	84.5	84.7	84.9	84.9	85.1
≥ 900	36.9	66.9	69.4	72.2	77.6	79.0	80.6	82.6	82.8	83.6	84.5	85.0	85.1	85.4	85.4	85.6
≥ 800	37.0	67.6	70.2	73.3	78.8	80.3	82.0	84.0	84.3	85.1	86.2	86.7	86.8	87.1	87.1	87.3
≥ 700	37.1	68.2	70.9	74.8	80.4	81.9	83.6	85.7	86.2	87.1	88.3	88.8	88.9	89.2	89.2	89.4
≥ 600	37.1	68.6	71.4	75.4	81.0	82.5	84.3	86.6	87.1	88.2	89.4	89.9	90.0	90.3	90.3	90.5
≥ 500	37.1	68.6	71.5	76.1	81.9	83.3	85.1	87.7	88.2	89.5	90.9	91.5	91.7	92.0	92.0	92.2
≥ 400	37.1	68.7	71.6	76.4	82.8	84.3	86.1	88.8	89.3	90.7	92.1	92.7	92.9	93.4	93.5	93.8
≥ 300	37.1	68.7	71.6	76.4	83.1	84.8	86.6	89.3	89.9	91.4	92.8	93.7	93.9	94.4	94.5	94.9
≥ 200	37.1	68.7	71.6	76.4	83.1	84.8	86.8	89.5	90.3	92.1	93.8	94.6	95.0	95.6	96.0	96.6
≥ 100	37.1	68.7	71.6	76.4	83.2	84.9	87.0	89.6	90.4	92.3	94.0	94.9	95.5	96.2	97.3	98.4
≥ 0	37.1	68.7	71.6	76.4	83.2	84.9	87.0	89.6	90.4	92.3	94.0	94.9	95.5	96.2	97.3	100.0

TOTAL NUMBER OF OBSERVATIONS

821

USAF ETAC

FORM
JUL 64

0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

120390 PHILIPS-COLLINS/ALPENA MI

73-81

MAP

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0900-1100
HOURS A.M.

CEILING FEET	VISIBILITY (STATUTE MILES)															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1.4	≥1	≥.4	≥.3	≥.25	≥.16	≥.1	≥0
NO CEILING	24.0	38.5	38.9	39.5	39.7	39.9	39.9	40.0	40.0	40.0	40.0	40.1	40.1	40.1	40.1	40.1
≥ 20000	25.3	41.8	42.4	43.2	43.5	43.8	43.8	43.9	43.9	43.9	43.9	44.0	44.0	44.0	44.0	44.0
≥ 18000	25.3	41.8	42.4	43.2	43.5	43.8	43.8	43.9	43.9	43.9	43.9	44.0	44.0	44.0	44.0	44.0
≥ 16000	25.3	41.8	42.4	43.2	43.5	43.8	43.8	43.9	43.9	43.9	43.9	44.0	44.0	44.0	44.0	44.0
≥ 14000	25.3	41.8	42.4	43.2	43.5	43.8	43.8	43.9	43.9	44.0	44.0	44.1	44.1	44.1	44.1	44.1
≥ 12000	25.3	41.8	42.4	43.2	43.5	43.8	43.8	43.9	43.9	44.0	44.0	44.1	44.1	44.1	44.1	44.1
≥ 10000	25.3	41.8	42.4	43.2	43.5	43.8	43.8	43.9	43.9	44.0	44.0	44.1	44.1	44.1	44.1	44.1
≥ 9000	25.3	41.8	42.4	43.2	43.5	43.8	43.8	43.9	43.9	44.0	44.0	44.1	44.1	44.1	44.1	44.1
≥ 8000	25.3	41.8	42.4	43.2	43.5	43.8	43.8	43.9	43.9	44.0	44.0	44.1	44.1	44.1	44.1	44.1
≥ 7000	25.3	41.8	42.4	43.2	43.5	43.8	43.8	43.9	43.9	44.0	44.0	44.1	44.1	44.1	44.1	44.1
≥ 6000	25.3	41.8	42.4	43.2	43.5	43.8	43.8	43.9	43.9	44.0	44.0	44.1	44.1	44.1	44.1	44.1
≥ 5000	25.3	41.8	42.4	43.2	43.5	43.8	43.8	43.9	43.9	44.0	44.0	44.1	44.1	44.1	44.1	44.1
≥ 4500	25.3	41.8	42.4	43.2	43.5	43.8	43.8	43.9	43.9	44.0	44.0	44.1	44.1	44.1	44.1	44.1
≥ 4000	25.3	41.8	42.4	43.2	43.5	43.8	43.8	43.9	43.9	44.0	44.0	44.1	44.1	44.1	44.1	44.1
≥ 3500	25.3	41.8	42.4	43.2	43.5	43.8	43.8	43.9	43.9	44.0	44.0	44.1	44.1	44.1	44.1	44.1
≥ 3000	25.3	41.8	42.4	43.2	43.5	43.8	43.8	43.9	43.9	44.0	44.0	44.1	44.1	44.1	44.1	44.1
≥ 2500	25.3	41.8	42.4	43.2	43.5	43.8	43.8	43.9	43.9	44.0	44.0	44.1	44.1	44.1	44.1	44.1
≥ 2000	25.3	41.8	42.4	43.2	43.5	43.8	43.8	43.9	43.9	44.0	44.0	44.1	44.1	44.1	44.1	44.1
≥ 1800	25.3	41.8	42.4	43.2	43.5	43.8	43.8	43.9	43.9	44.0	44.0	44.1	44.1	44.1	44.1	44.1
≥ 1500	25.3	41.8	42.4	43.2	43.5	43.8	43.8	43.9	43.9	44.0	44.0	44.1	44.1	44.1	44.1	44.1
≥ 1200	25.3	41.8	42.4	43.2	43.5	43.8	43.8	43.9	43.9	44.0	44.0	44.1	44.1	44.1	44.1	44.1
≥ 1000	25.3	41.8	42.4	43.2	43.5	43.8	43.8	43.9	43.9	44.0	44.0	44.1	44.1	44.1	44.1	44.1
≥ 900	25.3	41.8	42.4	43.2	43.5	43.8	43.8	43.9	43.9	44.0	44.0	44.1	44.1	44.1	44.1	44.1
≥ 800	25.3	41.8	42.4	43.2	43.5	43.8	43.8	43.9	43.9	44.0	44.0	44.1	44.1	44.1	44.1	44.1
≥ 700	25.3	41.8	42.4	43.2	43.5	43.8	43.8	43.9	43.9	44.0	44.0	44.1	44.1	44.1	44.1	44.1
≥ 600	25.3	41.8	42.4	43.2	43.5	43.8	43.8	43.9	43.9	44.0	44.0	44.1	44.1	44.1	44.1	44.1
≥ 500	25.3	41.8	42.4	43.2	43.5	43.8	43.8	43.9	43.9	44.0	44.0	44.1	44.1	44.1	44.1	44.1
≥ 400	25.3	41.8	42.4	43.2	43.5	43.8	43.8	43.9	43.9	44.0	44.0	44.1	44.1	44.1	44.1	44.1
≥ 300	25.3	41.8	42.4	43.2	43.5	43.8	43.8	43.9	43.9	44.0	44.0	44.1	44.1	44.1	44.1	44.1
≥ 200	25.3	41.8	42.4	43.2	43.5	43.8	43.8	43.9	43.9	44.0	44.0	44.1	44.1	44.1	44.1	44.1
≥ 100	25.3	41.8	42.4	43.2	43.5	43.8	43.8	43.9	43.9	44.0	44.0	44.1	44.1	44.1	44.1	44.1
≥ 0	25.3	41.8	42.4	43.2	43.5	43.8	43.8	43.9	43.9	44.0	44.0	44.1	44.1	44.1	44.1	44.1

TOTAL NUMBER OF OBSERVATIONS 818

USAF ETAC FORM 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

12639 PHELPS-COLLINS/ALPENA MI

73-81

MAP
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1200-1400
HOURS

CEILING FEET	VISIBILITY STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1.4	≥1	≥.8	≥.6	≥.5	≥.4	≥.3	≥.2
NO CEILING	25.7	40.5	40.6	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0
≥ 20000	27.8	44.1	44.3	44.7	44.8	44.8	44.8	44.8	44.8	44.8	44.8	44.8	44.8	44.8	44.8	44.8
IV 18000	27.8	44.1	44.3	44.7	44.8	44.8	44.8	44.8	44.8	44.8	44.8	44.8	44.8	44.8	44.8	44.8
IV 16000	27.8	44.1	44.3	44.7	44.8	44.8	44.8	44.8	44.8	44.8	44.8	44.8	44.8	44.8	44.8	44.8
IV 14000	27.8	44.2	44.4	44.8	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9
IV 12000	28.7	45.0	45.3	45.7	45.8	45.8	45.8	45.8	45.8	45.8	45.8	45.8	45.8	45.8	45.8	45.8
IV 10000	28.7	45.8	46.0	46.8	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0
IV 9000	29.0	45.9	46.3	47.1	47.4	47.4	47.4	47.4	47.4	47.4	47.4	47.4	47.4	47.4	47.4	47.4
IV 8000	29.3	46.9	47.5	48.3	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6
IV 7000	29.7	48.1	48.7	49.7	49.9	49.9	49.9	49.9	49.9	49.9	49.9	49.9	49.9	49.9	49.9	49.9
≥ 6000	30.2	48.7	49.3	50.3	50.6	50.6	50.6	50.6	50.6	50.6	50.6	50.6	50.6	50.6	50.6	50.6
IV 5000	30.8	49.7	50.3	51.3	51.5	51.7	51.7	51.7	51.7	51.7	51.7	51.7	51.7	51.7	51.7	51.7
IV 4500	31.3	50.6	51.2	52.3	52.5	52.6	52.6	52.8	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0
IV 4000	31.8	51.4	52.0	53.4	53.6	53.7	53.7	53.9	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1
≥ 3500	32.7	53.2	53.9	55.2	55.6	55.8	55.9	56.2	56.4	56.4	56.4	56.4	56.4	56.4	56.4	56.4
IV 3000	34.1	56.1	56.8	58.3	58.6	58.9	59.0	59.2	59.5	59.5	59.5	59.5	59.5	59.5	59.5	59.5
IV 2500	38.2	63.0	64.3	66.0	66.5	66.7	66.8	67.1	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3
IV 2000	40.5	68.3	69.8	71.8	72.3	72.6	72.7	72.9	73.2	73.2	73.2	73.2	73.2	73.2	73.2	73.2
≥ 1800	41.5	71.0	72.6	74.9	75.4	75.8	75.9	76.1	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4
IV 1500	42.4	75.0	76.7	79.3	80.2	80.9	81.2	81.4	81.6	81.9	81.9	81.9	81.9	81.9	81.9	81.9
≥ 1200	42.5	77.4	79.1	82.1	83.0	83.7	84.0	84.5	84.7	85.1	85.4	85.4	85.4	85.4	85.4	85.4
IV 1000	42.8	78.3	80.3	83.4	84.5	85.3	85.7	86.3	86.5	87.0	87.5	87.5	87.5	87.5	87.5	87.5
≥ 900	42.7	78.6	80.7	83.8	85.2	86.0	86.4	87.0	87.3	88.0	88.6	88.6	88.6	88.6	88.6	88.6
IV 800	43.0	78.9	81.2	84.3	85.9	87.1	87.5	88.2	88.5	89.6	90.2	90.2	90.2	90.2	90.2	90.2
≥ 700	43.0	79.6	82.0	85.2	87.3	88.7	89.2	90.3	90.6	91.7	92.4	92.4	92.4	92.4	92.4	92.4
IV 600	43.1	79.7	82.1	85.3	87.4	88.9	89.5	90.8	91.1	92.4	93.3	93.4	93.4	93.4	93.4	93.4
≥ 500	43.0	79.9	82.5	85.8	88.1	89.6	90.2	91.7	91.9	93.4	94.4	94.5	94.6	94.6	94.6	94.6
IV 400	43.0	80.0	82.6	85.9	88.5	90.2	90.9	92.7	93.0	94.6	95.8	96.1	96.2	96.2	96.2	96.2
≥ 300	43.0	80.0	82.6	85.9	88.7	90.6	91.8	93.8	94.1	95.7	97.1	97.4	97.9	97.9	98.0	98.0
IV 200	43.0	80.0	82.6	85.9	88.7	90.6	91.8	93.9	94.2	96.0	97.3	98.0	98.7	98.7	99.0	99.1
≥ 100	43.0	80.2	82.7	86.0	88.9	90.7	91.9	94.0	94.4	96.1	97.4	98.2	98.8	98.8	99.1	99.9
IV 0	43.0	80.2	82.7	86.0	88.9	90.7	91.9	94.0	94.4	96.1	97.4	98.2	98.8	98.8	99.1	100.0

TOTAL NUMBER OF OBSERVATIONS 817

USAF ETAC FORM 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

STATION 1-39 PHELPS-COLLINS/ALPENA MI

73-81

MAP

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1520-1700
HOURS (LT)

CEILING FEET	VISIBILITY - STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1.4	≥ 1	≥ .4	≥ .4	≥ .4	≥ 1/2	≥ 1/2	≥ 1/2
NO CEILING	25.5	41.4	41.5	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0
≥ 20000	21.7	46.0	46.6	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1
W 18000	27.7	46.0	46.6	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1
W 16000	27.7	46.0	46.6	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1
W 14000	28.0	46.6	47.2	47.7	47.7	47.7	47.7	47.7	47.7	47.7	47.7	47.7	47.7	47.7	47.7	47.7
W 12000	28.5	47.4	48.1	48.5	48.5	48.5	48.5	48.5	48.5	48.5	48.5	48.5	48.5	48.5	48.5	48.5
W 10000	28.9	48.3	49.0	49.4	49.4	49.4	49.4	49.4	49.4	49.4	49.4	49.4	49.4	49.4	49.4	49.4
W 9000	28.9	48.5	49.1	49.7	49.7	49.7	49.7	49.7	49.7	49.7	49.7	49.7	49.7	49.7	49.7	49.7
W 8000	29.7	49.7	50.6	51.2	51.3	51.4	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5
W 7000	30.5	51.0	51.9	52.5	52.6	52.8	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9
W 6000	31.1	51.9	52.9	53.4	53.5	53.6	53.7	53.7	53.7	53.7	53.7	53.7	53.7	53.7	53.7	53.7
W 5000	31.7	53.1	54.9	55.0	55.1	55.2	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3
W 4500	32.3	54.5	55.8	56.4	56.5	56.8	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9
W 4000	33.1	55.2	56.7	57.4	57.5	57.8	57.9	57.9	57.9	57.9	57.9	57.9	57.9	57.9	57.9	57.9
W 3500	35.1	58.0	59.5	60.2	60.3	60.6	60.7	60.8	60.8	60.8	60.8	60.8	60.8	60.8	60.8	60.8
W 3000	39.2	63.4	65.0	65.9	66.0	66.3	66.5	66.6	66.6	66.6	66.6	66.6	66.6	66.6	66.6	66.6
W 2500	42.2	69.5	71.1	72.2	72.3	72.7	72.8	72.9	72.9	72.9	72.9	73.1	73.1	73.1	73.1	73.1
W 2000	43.5	73.1	75.6	76.7	77.2	77.6	77.7	77.8	77.8	77.8	78.0	78.0	78.0	78.0	78.0	78.0
W 1800	43.9	74.8	77.0	78.2	79.1	79.4	79.7	79.8	79.8	79.8	79.8	79.9	79.9	79.9	79.9	79.9
W 1500	44.4	77.1	79.4	81.0	82.6	83.5	84.0	84.2	84.2	84.3	84.3	84.6	84.6	84.6	84.6	84.6
W 1200	44.7	78.9	81.4	83.0	84.7	85.7	86.3	86.9	86.9	87.1	87.1	87.4	87.4	87.4	87.4	87.4
W 1000	44.9	80.2	82.5	84.2	86.0	87.3	88.1	88.7	88.7	89.0	89.2	89.5	89.5	89.5	89.5	89.5
W 900	44.9	81.7	83.4	85.0	86.8	88.0	88.9	89.5	89.5	89.8	90.2	90.5	90.5	90.5	90.5	90.5
W 800	44.9	83.8	85.6	87.3	89.3	90.6	91.5	92.1	92.1	92.6	93.0	93.3	93.3	93.3	93.3	93.3
W 700	44.9	80.9	83.7	85.7	87.6	89.1	90.0	90.7	90.7	91.3	91.9	92.3	92.3	92.3	92.3	92.3
W 600	44.9	80.9	83.7	85.7	87.8	89.2	90.3	91.1	91.2	91.8	92.5	93.0	93.0	93.0	93.0	93.0
W 500	44.9	81.0	84.0	86.0	88.2	89.7	90.9	91.8	92.0	92.9	93.8	94.2	94.4	94.4	94.4	94.4
W 400	44.9	81.0	84.2	86.4	89.2	90.7	92.0	93.3	93.5	94.5	95.7	96.3	96.5	96.6	96.6	96.6
W 300	44.9	81.0	84.2	86.4	89.2	90.8	92.2	93.5	93.8	95.0	96.7	97.3	97.6	97.8	97.8	97.8
W 200	44.9	81.0	84.2	86.4	89.2	90.8	92.2	93.6	93.9	95.5	97.3	98.0	98.3	98.7	99.4	99.9
W 100	44.9	81.0	84.2	86.4	89.2	90.8	92.2	93.6	93.9	95.5	97.3	98.0	98.3	98.7	99.4	100.0
W 0	44.9	81.0	84.2	86.4	89.2	90.8	92.2	93.6	93.9	95.5	97.3	98.0	98.3	98.7	99.4	100.0

TOTAL NUMBER OF OBSERVATIONS 817

USAF ETAC FORM 10-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAL

CEILING VERSUS VISIBILITY

17839 PHELPS-COLLINS/ALPENA MI
STATION STATION NAME

73-81
YEARS

MAR
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1800-2000
HOURS (LT)

CEILING FEET	VISIBILITY STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1.25	≥ 1	≥ .75	≥ .5	≥ .25	≥ .16	≥ .1	≥ 0
NO CEILING	27.8	42.9	43.9	44.2	44.5	44.5	44.6	44.6	44.6	44.6	44.6	44.6	44.6	44.6	44.6	44.6
≥ 20000	24.4	41.9	48.9	49.4	49.6	49.6	49.9	49.9	49.9	49.9	49.9	49.9	49.9	49.9	49.9	49.9
≥ 18000	29.6	48.2	49.1	49.6	49.9	49.9	50.1	50.1	50.1	50.1	50.1	50.1	50.1	50.1	50.1	50.1
≥ 16000	29.7	48.3	49.3	49.8	50.0	50.0	50.2	50.2	50.2	50.2	50.2	50.2	50.2	50.2	50.2	50.2
≥ 14000	30.1	43.6	49.6	50.1	50.4	50.4	50.6	50.6	50.6	50.6	50.6	50.6	50.6	50.6	50.6	50.6
≥ 12000	30.3	49.1	50.1	50.6	50.9	50.9	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1
≥ 10000	30.5	49.8	50.7	51.2	51.5	51.5	51.7	51.7	51.7	51.7	51.7	51.7	51.7	51.7	51.7	51.7
≥ 9000	30.6	50.0	51.0	51.5	51.7	51.7	52.0	52.0	52.0	52.0	52.0	52.0	52.0	52.0	52.0	52.0
≥ 8000	32.4	52.6	53.6	54.1	54.3	54.3	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5
≥ 7000	32.9	53.4	54.4	55.0	55.3	55.3	55.5	55.5	55.5	55.5	55.5	55.5	55.5	55.5	55.5	55.5
≥ 6000	33.7	54.2	55.2	55.8	56.0	56.0	56.3	56.3	56.3	56.3	56.3	56.3	56.3	56.3	56.3	56.3
≥ 5000	34.1	55.3	56.4	57.0	57.2	57.2	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5
≥ 4500	35.0	57.0	58.7	59.5	59.7	59.7	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
≥ 4000	36.1	58.7	61.1	60.9	61.3	61.3	61.5	61.5	61.5	61.5	61.5	61.5	61.5	61.5	61.5	61.5
≥ 3500	39.1	61.3	62.0	63.8	64.3	64.5	64.7	64.7	64.7	64.7	64.7	64.7	64.7	64.7	64.7	64.7
≥ 3000	40.3	65.1	66.8	67.8	68.3	68.6	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8
≥ 2500	43.9	70.9	73.0	74.1	74.6	74.8	75.1	75.2	75.2	75.2	75.2	75.2	75.2	75.3	75.3	75.3
≥ 2000	45.3	73.6	75.9	77.0	77.8	78.0	78.3	78.4	78.4	78.4	78.4	78.4	78.4	78.5	78.5	78.5
≥ 1800	45.6	74.3	76.8	78.0	78.7	79.1	79.4	79.5	79.5	79.5	79.5	79.5	79.5	79.6	79.6	79.6
≥ 1500	46.2	76.2	79.1	80.7	81.7	82.1	82.8	83.0	83.0	83.3	83.5	83.5	83.5	83.7	83.7	83.7
≥ 1200	46.6	77.8	80.8	82.6	83.8	84.2	85.1	85.5	85.5	85.9	86.2	86.4	86.4	86.5	86.5	86.5
≥ 1000	46.7	79.0	82.3	84.3	86.0	86.4	87.3	87.7	88.0	88.5	88.9	89.1	89.2	89.2	89.2	89.2
≥ 900	46.7	79.2	82.6	84.8	86.5	86.9	87.8	88.2	88.5	88.9	89.4	89.6	89.7	89.8	89.9	89.9
≥ 800	46.8	79.5	82.9	85.3	87.0	87.3	88.5	88.9	89.2	90.0	90.5	90.8	91.0	91.2	91.3	91.3
≥ 700	46.8	79.7	83.2	85.5	87.3	87.8	89.1	89.6	89.8	90.9	91.8	92.0	92.3	92.4	92.5	92.5
≥ 600	46.8	79.9	83.4	86.0	88.0	88.5	89.8	90.4	90.7	91.8	92.6	92.9	93.2	93.4	93.5	93.5
≥ 500	46.8	80.0	83.7	86.2	88.2	88.8	90.2	90.8	91.0	92.5	93.5	93.7	94.3	94.5	94.6	94.6
≥ 400	46.8	80.0	83.7	86.5	88.7	89.4	90.9	91.5	91.8	93.4	94.3	94.6	95.2	95.3	95.5	95.5
≥ 300	46.8	80.0	83.7	86.5	88.7	89.4	90.9	91.6	91.9	93.5	94.5	94.7	95.3	95.5	95.6	95.6
≥ 200	46.8	80.0	83.7	86.5	88.7	89.4	90.9	91.6	92.1	94.0	95.7	96.1	96.8	96.9	97.2	97.2
≥ 100	46.8	80.0	83.7	86.5	88.7	89.4	90.9	91.8	92.1	94.1	95.9	96.3	97.2	97.5	98.3	99.4
≥ 0	46.8	80.0	83.7	86.5	88.7	89.4	90.9	91.8	92.1	94.1	95.9	96.3	97.2	97.5	98.3	100.0

TOTAL NUMBER OF OBSERVATIONS 814

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAL

CEILING VERSUS VISIBILITY

17339 PHELPS-COLLINS/ALPENA MI

73-81

MAN
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

2100-2300
HOURS

CEILING FEET	VISIBILITY STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1.4	≥ 1	≥ .5	≥ .5	≥ .5	≥ .5	≥ .5	≥ .5
NO CEILING	26.4	41.1	41.8	42.0	42.9	42.9	43.1	43.1	43.1	43.3	43.4	43.4	43.4	43.4	43.4	43.4
≥ 20000	26.6	43.7	44.6	45.0	45.8	45.8	46.1	46.1	46.1	46.2	46.3	46.3	46.3	46.3	46.3	46.3
≥ 18000	26.6	43.7	44.6	45.1	45.9	45.9	46.2	46.2	46.2	46.3	46.4	46.4	46.4	46.4	46.4	46.4
≥ 16000	26.6	43.9	44.7	45.1	45.9	45.9	46.2	46.2	46.2	46.3	46.4	46.4	46.4	46.4	46.4	46.4
≥ 14000	26.6	44.0	44.8	45.2	46.1	46.1	46.3	46.3	46.3	46.4	46.5	46.5	46.5	46.5	46.5	46.5
≥ 12000	26.6	44.5	45.3	45.7	46.5	46.5	46.8	46.8	46.8	46.9	47.0	47.0	47.0	47.0	47.0	47.0
≥ 10000	27.3	45.2	46.2	46.5	47.4	47.4	47.6	47.6	47.6	47.8	47.9	47.9	47.9	47.9	47.9	47.9
≥ 9000	27.3	45.2	46.2	46.5	47.4	47.4	47.6	47.6	47.6	47.8	47.9	47.9	47.9	47.9	47.9	47.9
≥ 8000	29.1	47.6	48.6	49.0	49.8	49.8	50.1	50.1	50.1	50.2	50.3	50.3	50.3	50.3	50.3	50.3
≥ 7000	30.1	49.0	49.9	50.3	51.2	51.2	51.4	51.4	51.4	51.5	51.6	51.6	51.6	51.6	51.6	51.6
≥ 6000	30.7	50.2	51.2	51.5	52.4	52.4	52.6	52.6	52.6	52.7	52.9	52.9	52.9	52.9	52.9	52.9
≥ 5000	31.7	52.2	53.2	53.6	54.6	54.6	54.8	54.8	54.8	54.9	55.0	55.0	55.0	55.0	55.0	55.0
≥ 4500	33.0	54.7	55.8	56.1	57.1	57.1	57.4	57.4	57.4	57.5	57.6	57.6	57.6	57.6	57.6	57.6
≥ 4000	33.3	55.1	56.2	56.6	57.6	57.6	58.8	59.1	59.1	59.2	59.3	59.3	59.3	59.3	59.3	59.3
≥ 3500	35.5	57.8	59.5	60.8	61.4	61.4	61.7	62.1	62.1	62.2	62.3	62.3	62.3	62.3	62.3	62.3
≥ 3000	37.0	61.5	63.3	64.0	65.5	65.5	65.9	66.2	66.2	66.3	66.5	66.5	66.5	66.5	66.5	66.5
≥ 2500	40.6	67.7	69.5	70.4	71.9	72.1	72.4	72.8	72.8	72.9	73.0	73.0	73.1	73.1	73.1	73.1
≥ 2000	41.6	71.1	73.1	74.2	75.8	75.9	76.3	76.7	76.7	76.8	76.9	76.9	77.0	77.0	77.0	77.0
≥ 1800	43.0	72.8	75.0	76.2	77.8	77.9	78.4	78.7	78.7	78.9	79.0	79.0	79.1	79.1	79.1	79.1
≥ 1500	44.0	75.3	77.8	79.2	81.2	81.3	82.3	82.9	82.9	83.0	83.1	83.1	83.2	83.2	83.2	83.2
≥ 1200	44.5	76.8	79.6	81.0	83.1	83.2	84.3	85.3	85.3	85.5	85.8	85.8	85.9	85.9	85.9	85.9
≥ 1000	44.9	78.1	81.3	82.9	84.9	85.1	86.3	87.2	87.2	87.5	87.7	87.7	87.8	87.8	87.8	87.8
≥ 900	44.9	78.6	81.8	83.4	85.7	85.8	87.0	88.0	88.0	88.2	88.5	88.5	88.6	88.6	88.6	88.6
≥ 800	45.0	79.0	82.5	84.2	86.6	86.8	88.0	88.9	88.9	89.2	89.4	89.6	89.7	89.7	89.7	89.7
≥ 700	45.1	79.2	82.7	84.4	86.9	87.0	88.6	89.6	89.6	89.8	90.0	90.2	90.3	90.3	90.3	90.3
≥ 600	45.1	79.6	83.2	85.1	87.5	87.6	89.3	90.3	90.3	90.8	91.1	91.3	91.4	91.4	91.4	91.4
≥ 500	45.1	79.8	83.7	85.8	88.2	88.3	90.0	91.3	91.3	91.9	92.2	92.3	92.5	92.5	92.5	92.5
≥ 400	45.1	80.1	84.1	86.5	89.2	89.3	91.3	92.5	92.8	93.6	94.4	94.5	94.7	94.8	94.8	94.8
≥ 300	45.1	80.2	84.2	86.6	89.7	89.8	91.7	93.1	93.8	94.7	95.5	95.9	96.0	96.1	96.2	96.2
≥ 200	45.1	80.2	84.2	86.6	89.9	90.0	92.2	93.7	94.4	95.4	96.6	97.3	97.3	97.4	97.7	97.7
≥ 100	45.1	80.2	84.2	86.6	89.9	90.2	92.3	93.8	94.5	95.7	97.0	97.3	97.8	97.9	98.3	98.7
≥ 0	45.1	80.2	84.2	86.6	89.9	90.2	92.3	93.8	94.5	95.7	97.0	97.3	97.8	97.9	98.3	98.7

TOTAL NUMBER OF OBSERVATIONS 823

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

1.839 PHELPS-COLLINS/ALPENA MI

73-81

MAY

STATION

STATION NAME

YEARS

MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

ALL

HOURLY

CEILING FEET	VISIBILITY: STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2	≥2	≥1	≥1	≥1	≥1	≥1	≥1	≥1	≥1	≥1
NO CEILING	24.5	34.1	39.8	40.2	40.7	40.8	40.9	41.0	41.0	41.0	41.1	41.1	41.2	41.2	41.2	41.3
≥ 20000	25.6	42.3	43.1	43.6	44.1	44.2	44.3	44.4	44.4	44.5	44.6	44.6	44.6	44.6	44.7	44.7
≥ 18000	25.7	42.4	43.2	43.7	44.2	44.3	44.4	44.5	44.5	44.6	44.7	44.7	44.7	44.7	44.7	44.8
≥ 16000	25.7	42.4	43.2	43.7	44.2	44.3	44.4	44.5	44.5	44.6	44.7	44.7	44.7	44.7	44.8	44.8
≥ 14000	25.7	42.4	43.4	43.9	44.4	44.5	44.7	44.8	44.8	44.8	44.9	44.9	45.0	45.0	45.0	45.1
≥ 12000	25.7	42.4	44.0	44.5	45.0	45.0	45.2	45.3	45.3	45.4	45.4	45.5	45.5	45.5	45.5	45.6
≥ 10000	25.7	44.0	44.8	45.4	46.0	46.1	46.3	46.3	46.3	46.4	46.5	46.5	46.6	46.6	46.6	46.7
≥ 9000	25.7	44.2	45.1	45.7	46.3	46.4	46.5	46.6	46.6	46.7	46.8	46.8	46.8	46.8	46.9	46.9
≥ 8000	27.7	45.8	46.8	47.4	48.0	48.1	48.3	48.4	48.4	48.5	48.6	48.6	48.6	48.6	48.7	48.7
≥ 7000	28.5	47.1	48.1	48.7	49.3	49.5	49.6	49.7	49.7	49.8	49.9	49.9	50.0	50.0	50.0	50.1
≥ 6000	28.5	47.9	48.9	49.6	50.2	50.3	50.5	50.6	50.6	50.7	50.7	50.8	50.8	50.8	50.8	50.9
≥ 5000	29.8	49.6	50.7	51.4	52.0	52.2	52.4	52.4	52.5	52.6	52.7	52.7	52.8	52.8	52.8	52.9
≥ 4500	30.9	51.2	52.4	53.1	53.9	54.0	54.3	54.4	54.4	54.5	54.6	54.6	54.7	54.7	54.7	54.8
≥ 4000	31.4	52.1	53.3	54.2	55.0	55.2	55.5	55.5	55.6	55.7	55.8	55.8	55.9	55.9	55.9	56.0
≥ 3500	33.1	54.5	55.9	56.8	57.7	58.0	58.3	58.5	58.5	58.6	58.7	58.7	58.8	58.8	58.8	58.9
≥ 3000	35.3	57.9	59.4	60.5	61.6	61.9	62.1	62.3	62.4	62.5	62.6	62.6	62.7	62.7	62.7	62.8
≥ 2500	37.9	63.1	64.9	66.3	67.5	67.9	68.2	68.4	68.5	68.6	68.8	68.8	68.9	68.9	68.9	69.1
≥ 2000	39.6	67.2	69.2	70.9	72.4	72.8	73.2	73.4	73.5	73.6	73.7	73.8	73.9	73.9	73.9	74.0
≥ 1800	40.3	68.8	71.0	72.7	74.3	74.8	75.2	75.5	75.5	75.7	75.8	75.8	75.9	76.0	76.0	76.1
≥ 1500	41.4	71.8	74.2	76.2	78.4	79.0	79.7	80.2	80.3	80.5	80.7	80.8	80.9	80.9	81.0	81.2
≥ 1200	41.7	73.6	76.1	78.3	80.7	81.4	82.2	82.9	83.0	83.4	83.7	83.8	83.9	83.9	84.0	84.0
≥ 1000	42.1	75.0	77.8	80.1	82.8	83.6	84.6	85.5	85.6	86.1	86.6	86.7	86.8	86.8	86.8	86.9
≥ 900	42.1	75.4	78.2	80.7	83.5	84.3	85.3	86.2	86.4	86.9	87.4	87.5	87.6	87.7	87.7	87.8
≥ 800	42.2	75.8	78.8	81.5	84.4	85.3	86.4	87.3	87.5	88.2	88.7	88.9	89.0	89.1	89.1	89.2
≥ 700	42.2	76.2	79.3	82.2	85.2	86.2	87.4	88.5	88.7	89.5	90.2	90.4	90.5	90.5	90.6	90.6
≥ 600	42.3	76.3	79.5	82.5	85.7	86.6	88.0	89.2	89.4	90.3	91.1	91.3	91.4	91.4	91.5	91.6
≥ 500	42.3	76.5	79.8	83.1	86.4	87.4	88.9	90.3	90.5	91.6	92.5	92.7	92.9	93.0	93.0	93.1
≥ 400	42.3	76.6	80.1	83.5	87.2	88.3	90.0	91.5	91.8	93.0	94.1	94.4	94.6	94.7	94.8	94.9
≥ 300	42.3	76.6	80.1	83.6	87.4	88.6	90.5	92.2	92.6	93.9	95.1	95.4	95.7	95.8	96.0	96.1
≥ 200	42.3	76.6	80.3	83.8	87.7	88.8	90.8	92.6	93.0	94.5	96.0	96.4	96.8	97.0	97.4	97.6
≥ 100	42.3	76.7	80.3	83.8	87.8	89.0	91.0	92.8	93.2	94.8	96.3	96.8	97.3	97.6	98.4	99.2
≥ 0	42.3	76.7	80.3	83.8	87.8	89.0	91.0	92.8	93.2	94.8	96.3	96.8	97.3	97.6	98.4	100.0

TOTAL NUMBER OF OBSERVATIONS

6344

USAF ETAC

FORM 10-64

0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

U.S. AIR FORCE
U.S. AIR FORCE
U.S. AIR FORCE

CEILING VERSUS VISIBILITY

STATION NAME
HILLPS-COLLINS/ALPHA MI

73-81

AP-1

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

2000-1200

CEILING FEET	VISIBILITY STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2	≥2	≥1	≥1	≥1	≥1	≥1	≥1	≥1	≥1	≥1
2000	51.5	47.2	44.7	44.8	44.8	44.8	44.9	44.9	44.9	44.9	44.9	44.9	44.9	50.1	50.1	50.1
1800	51.5	52.0	52.5	52.6	52.6	52.6	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.9	52.9	52.9
1600	51.5	52.0	52.5	52.6	52.6	52.6	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.9	52.9	52.9
1400	51.5	52.0	52.5	52.6	52.6	52.6	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.9	52.9	52.9
1200	51.5	52.0	52.5	52.6	52.6	52.6	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.9	52.9	52.9
1000	51.5	52.0	52.5	52.6	52.6	52.6	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.9	52.9	52.9
800	51.5	52.0	52.5	52.6	52.6	52.6	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.9	52.9	52.9
600	51.5	52.0	52.5	52.6	52.6	52.6	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.9	52.9	52.9
400	51.5	52.0	52.5	52.6	52.6	52.6	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.9	52.9	52.9
200	51.5	52.0	52.5	52.6	52.6	52.6	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.9	52.9	52.9
100	51.5	52.0	52.5	52.6	52.6	52.6	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.9	52.9	52.9
50	51.5	52.0	52.5	52.6	52.6	52.6	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.9	52.9	52.9
25	51.5	52.0	52.5	52.6	52.6	52.6	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.9	52.9	52.9
10	51.5	52.0	52.5	52.6	52.6	52.6	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.9	52.9	52.9
5	51.5	52.0	52.5	52.6	52.6	52.6	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.9	52.9	52.9
2	51.5	52.0	52.5	52.6	52.6	52.6	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.9	52.9	52.9
1	51.5	52.0	52.5	52.6	52.6	52.6	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.9	52.9	52.9
0	51.5	52.0	52.5	52.6	52.6	52.6	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.9	52.9	52.9

TOTAL NUMBER OF OBSERVATIONS 785

USAF ETAC 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GENERAL CLIMATOLOGY BRANCH
USAF ETAC
AL: WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

STATION NO. 59 PHELPS-COLLINS/ALPENA MI

73-81

APR

STATION

STATION NAME

YEARS

MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

3300-0500
HOURS LST

CEILING FEET	VISIBILITY STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1.4	≥ 1	≥ .8	≥ .6	≥ .5	≥ .4	≥ .3	≥ .2
NO. CEILING	31.3	47.8	48.9	49.0	49.0	49.0	49.2	49.4	49.4	49.6	49.6	49.6	49.6	49.6	49.7	49.7
≥ 20000	32.5	52.4	52.5	52.6	52.6	52.6	52.7	53.0	53.0	53.1	53.1	53.1	53.1	53.1	53.2	53.2
≥ 18000	32.5	52.4	52.5	52.6	52.6	52.6	52.7	53.0	53.0	53.1	53.1	53.1	53.1	53.1	53.2	53.2
≥ 16000	32.5	52.4	52.5	52.6	52.6	52.6	52.7	53.0	53.0	53.1	53.1	53.1	53.1	53.1	53.2	53.2
≥ 14000	32.5	52.6	52.7	52.9	52.9	52.9	53.0	53.2	53.2	53.4	53.4	53.4	53.4	53.4	53.5	53.5
≥ 12000	32.7	52.9	53.1	53.1	53.1	53.1	53.2	53.5	53.5	53.6	53.6	53.6	53.6	53.6	53.7	53.7
≥ 10000	33.3	53.7	53.9	54.0	54.0	54.0	54.1	54.4	54.4	54.5	54.5	54.5	54.5	54.5	54.6	54.6
≥ 9000	33.3	53.7	53.9	54.0	54.0	54.0	54.1	54.4	54.4	54.5	54.5	54.5	54.5	54.5	54.6	54.6
≥ 8000	34.9	56.0	56.2	56.3	56.4	56.4	56.5	56.8	56.8	56.9	56.9	56.9	56.9	56.9	57.1	57.1
≥ 7000	36.7	58.1	58.3	58.6	58.7	58.7	58.8	59.1	59.1	59.2	59.2	59.2	59.2	59.2	59.3	59.3
≥ 6000	36.5	59.5	59.7	60.0	60.1	60.1	60.2	60.5	60.5	60.6	60.6	60.6	60.6	60.6	60.7	60.7
≥ 5000	37.4	62.5	62.9	63.4	63.5	63.7	63.9	64.2	64.2	64.3	64.3	64.3	64.3	64.3	64.4	64.4
≥ 4500	39.1	64.8	65.4	66.2	66.3	66.5	66.7	67.0	67.0	67.1	67.1	67.1	67.1	67.1	67.2	67.2
≥ 4000	39.3	65.7	66.3	67.1	67.5	67.6	67.9	68.1	68.1	68.4	68.4	68.4	68.4	68.4	68.5	68.5
≥ 3500	39.9	67.3	68.1	68.9	69.6	69.8	70.0	70.3	70.3	70.5	70.5	70.5	70.5	70.5	70.6	70.6
≥ 3000	41.2	69.0	70.0	70.8	71.5	71.7	72.0	72.3	72.3	72.6	72.6	72.6	72.6	72.6	72.7	72.7
≥ 2500	41.4	71.8	73.2	74.0	74.7	74.8	75.2	75.5	75.5	75.7	75.7	75.7	75.7	75.7	75.9	75.9
≥ 2000	43.5	74.2	75.6	76.5	77.3	77.4	77.8	78.0	78.0	78.3	78.3	78.3	78.3	78.3	78.4	78.4
≥ 1800	44.1	75.0	76.4	77.3	78.0	78.1	78.5	78.8	78.8	79.0	79.0	79.0	79.0	79.0	79.2	79.2
≥ 1500	45.6	77.8	79.2	80.1	80.8	80.9	81.3	81.6	81.6	81.8	81.8	81.8	81.8	81.8	82.0	82.1
≥ 1200	46.1	79.2	80.7	81.6	82.3	82.5	82.8	83.1	83.1	83.4	83.5	83.5	83.5	83.5	83.6	83.7
≥ 1000	46.5	80.2	81.7	82.6	83.4	83.5	83.9	84.1	84.1	84.4	84.5	84.5	84.5	84.5	84.6	84.8
≥ 900	46.6	81.3	81.8	82.7	83.5	83.6	84.0	84.4	84.4	84.6	84.8	84.8	84.8	84.8	84.9	85.0
≥ 800	46.6	81.7	82.3	83.2	84.1	84.2	84.8	85.1	85.1	85.4	85.5	85.5	85.5	85.5	85.6	85.8
≥ 700	46.6	81.2	83.2	84.4	85.5	85.6	86.1	86.7	86.7	86.9	87.0	87.0	87.0	87.0	87.2	87.3
≥ 600	46.6	81.7	83.7	85.0	86.4	86.5	87.0	87.5	87.5	87.9	88.1	88.1	88.1	88.1	88.2	88.3
≥ 500	46.6	82.3	84.6	86.0	87.9	88.1	88.8	89.5	89.6	90.2	90.3	90.3	90.3	90.3	90.5	90.6
≥ 400	46.6	82.8	85.6	87.3	89.6	89.8	91.0	92.0	92.2	92.9	93.3	93.3	93.3	93.5	93.8	93.9
≥ 300	46.6	82.8	85.8	87.5	90.0	90.3	92.5	93.8	94.0	94.7	95.0	95.0	95.0	95.3	95.6	95.7
≥ 200	46.6	85.0	85.9	87.7	90.2	90.7	93.3	94.8	95.0	95.8	96.2	96.4	96.4	96.7	97.0	97.1
≥ 100	46.8	83.0	85.9	87.7	90.3	91.0	93.6	95.7	96.1	97.1	97.5	97.7	97.8	98.2	98.6	99.1
≥ 0	46.9	83.0	85.9	87.7	90.3	91.0	93.6	95.7	96.1	97.1	97.5	97.7	97.8	98.2	98.6	100.0

TOTAL NUMBER OF OBSERVATIONS

787

USAF ETAC 1-64 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

SECIAL CLIMATOLOGY BRANCH
AFETAC
AIR WEATHER SERVICE/MAL

CEILING VERSUS VISIBILITY

17-39
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

APR
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0600-0800
DATE

CEILING FEET	VISIBILITY STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1.4	≥ 1	≥ .4	≥ .3	≥ .25	≥ .2	≥ .15	≥ 0
NO CEILING	29.3	45.2	45.5	45.7	46.1	46.2	46.4	46.5	46.6	46.6	46.7	46.7	46.7	46.7	46.9	47.0
≥ 20000	30.7	50.5	50.9	51.1	51.5	51.6	51.8	52.0	52.1	52.1	52.3	52.3	52.3	52.3	52.4	52.5
≥ 18000	30.7	50.5	50.9	51.1	51.5	51.6	51.8	52.0	52.1	52.1	52.3	52.3	52.3	52.3	52.4	52.5
≥ 16000	30.7	50.5	50.9	51.1	51.5	51.6	51.8	52.0	52.1	52.1	52.3	52.3	52.3	52.3	52.4	52.5
≥ 14000	31.2	51.1	51.5	51.8	52.1	52.3	52.4	52.6	52.8	52.8	52.9	52.9	52.9	52.9	53.0	53.1
≥ 12000	31.6	51.6	52.0	52.3	52.6	52.8	52.9	53.1	53.4	53.4	53.5	53.5	53.5	53.5	53.6	53.8
≥ 10000	32.2	53.8	54.1	54.4	54.8	54.9	55.1	55.4	55.6	55.6	55.8	55.8	55.8	55.8	55.9	56.0
≥ 9000	32.2	53.8	54.1	54.4	54.8	54.9	55.1	55.4	55.6	55.6	55.8	55.8	55.8	55.8	55.9	56.0
≥ 8000	34.2	57.1	57.6	57.9	58.3	58.4	58.6	58.9	59.1	59.3	59.4	59.4	59.4	59.4	59.5	59.6
≥ 7000	35.2	58.3	58.9	59.1	59.5	59.6	59.9	60.2	60.4	60.5	60.7	60.7	60.7	60.7	60.8	60.9
≥ 6000	35.2	59.5	60.2	60.5	60.9	61.0	61.3	61.5	61.8	61.9	62.2	62.2	62.2	62.2	62.3	62.4
≥ 5000	35.6	61.7	62.3	62.7	63.0	63.2	63.5	63.8	64.0	64.2	64.4	64.4	64.4	64.4	64.5	64.7
≥ 4500	37.8	63.4	64.0	64.4	64.8	64.9	65.3	65.5	65.8	66.0	66.4	66.4	66.4	66.4	66.5	66.7
≥ 4000	37.8	64.4	65.0	65.4	66.0	66.2	66.7	66.9	67.2	67.4	67.8	67.8	67.8	67.8	67.9	68.0
≥ 3500	38.8	66.3	66.9	67.3	68.0	68.2	68.7	69.0	69.3	69.5	69.9	69.9	69.9	69.9	70.1	70.2
≥ 3000	40.1	68.2	68.8	69.2	70.2	70.3	70.8	71.3	71.6	71.8	72.3	72.3	72.3	72.3	72.4	72.6
≥ 2500	40.9	70.9	71.7	72.3	73.3	73.4	73.9	74.4	74.7	74.9	75.4	75.4	75.4	75.4	75.6	75.7
≥ 2000	42.4	73.2	74.2	75.1	76.1	76.2	76.8	77.3	77.6	77.9	78.4	78.4	78.4	78.4	78.6	78.7
≥ 1800	43.0	74.2	75.2	76.1	77.1	77.2	77.8	78.3	78.6	78.9	79.4	79.4	79.4	79.4	79.6	79.7
≥ 1500	43.4	76.8	77.8	78.9	79.9	80.2	80.8	81.5	81.7	82.1	82.6	82.6	82.6	82.6	82.7	82.8
≥ 1200	44.5	73.4	79.4	80.7	81.8	82.1	82.7	83.3	83.6	84.0	84.5	84.5	84.5	84.5	84.6	84.7
≥ 1000	45.1	77.1	80.1	81.5	82.7	83.0	83.7	84.5	84.7	85.2	85.7	85.7	85.7	85.7	85.8	86.0
≥ 900	45.4	79.3	80.5	81.8	83.1	83.3	84.1	84.8	85.2	85.8	86.5	86.5	86.5	86.5	86.6	86.7
≥ 800	45.5	77.8	81.1	82.7	84.0	84.2	85.1	86.0	86.3	87.3	88.1	88.1	88.1	88.1	88.2	88.3
≥ 700	45.5	81.7	82.1	83.8	85.1	85.3	86.2	87.1	87.5	88.5	89.5	89.5	89.5	89.5	89.6	89.7
≥ 600	45.5	81.1	82.5	84.2	85.7	86.0	86.8	87.7	88.1	89.1	90.1	90.1	90.1	90.1	90.2	90.4
≥ 500	45.5	81.3	82.8	84.7	86.6	86.8	87.8	89.0	89.3	90.9	92.0	92.0	92.0	92.0	92.1	92.2
≥ 400	45.6	81.8	83.3	85.5	88.2	88.8	90.1	91.6	92.0	93.6	94.9	94.9	94.9	95.0	95.1	95.4
≥ 300	45.6	82.0	83.6	86.0	88.8	89.5	90.7	92.7	93.4	95.1	96.6	96.6	96.6	97.0	97.1	97.4
≥ 200	45.6	82.0	83.6	86.0	88.8	89.5	90.7	92.7	93.4	95.1	96.6	96.6	96.6	97.0	97.1	97.4
≥ 100	45.6	82.0	83.6	86.0	88.8	89.5	90.7	92.7	93.4	95.1	96.6	96.6	96.6	97.0	97.1	97.4
≥ 0	45.6	82.0	83.6	86.0	88.8	89.5	90.7	92.7	93.4	95.1	96.6	96.6	96.6	97.0	97.1	97.4

TOTAL NUMBER OF OBSERVATIONS 798

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAL

CEILING VERSUS VISIBILITY

1-639
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

75-81
YEARS

APR
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0900-1100
HOURS U.T.

CEILING FEET	VISIBILITY STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1.25	≥1	≥0.75	≥0.5	≥0.25	≥0.15	≥0.1	≥0
NO CEILING	31.3	49.2	49.4	49.7	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8
≥ 20000	34.3	53.8	54.2	54.6	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7
IV 18000	34.3	53.8	54.2	54.6	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7
IV 16000	34.3	53.8	54.2	54.6	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7
IV 14000	34.3	54.1	54.5	54.9	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0
IV 12000	34.9	55.0	55.4	55.7	55.9	55.9	55.9	55.9	55.9	55.9	55.9	55.9	55.9	55.9	55.9	55.9
IV 10000	35.4	56.7	57.1	57.5	57.6	57.6	57.6	57.6	57.6	57.6	57.6	57.6	57.6	57.6	57.6	57.6
IV 9000	35.4	57.0	57.4	57.8	57.9	57.9	57.9	57.9	57.9	57.9	57.9	57.9	57.9	57.9	57.9	57.9
IV 8000	36.4	59.0	59.4	59.8	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
IV 7000	37.5	60.3	60.7	61.0	61.3	61.3	61.3	61.3	61.3	61.4	61.4	61.4	61.4	61.4	61.4	61.4
IV 6000	38.1	61.9	61.3	61.7	61.9	61.9	61.9	61.9	62.0	62.0	62.0	62.0	62.0	62.0	62.0	62.0
IV 5000	39.2	62.9	63.3	63.9	64.3	64.4	64.4	64.4	64.6	64.7	64.7	64.7	64.7	64.7	64.7	64.7
IV 4500	40.0	64.3	64.7	65.3	65.7	66.0	66.1	66.2	66.3	66.3	66.3	66.3	66.3	66.3	66.3	66.3
IV 4000	40.7	65.7	66.1	66.7	67.1	67.3	67.5	67.6	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8
IV 3500	41.0	67.1	67.5	68.1	68.7	69.0	69.2	69.4	69.5	69.6	69.6	69.6	69.6	69.6	69.6	69.6
IV 3000	41.5	68.1	68.9	69.5	70.4	70.6	70.9	71.0	71.1	71.2	71.2	71.2	71.2	71.2	71.2	71.2
IV 2500	42.7	71.9	72.8	73.4	74.3	74.5	74.9	75.0	75.2	75.3	75.3	75.3	75.3	75.3	75.3	75.3
IV 2000	43.9	75.0	75.9	76.8	77.7	77.9	78.3	78.6	78.7	78.8	78.8	78.8	78.8	78.8	78.8	78.8
IV 1800	44.3	76.3	77.2	78.1	78.9	79.2	79.6	79.8	79.9	80.1	80.1	80.1	80.1	80.1	80.1	80.1
IV 1500	46.2	79.9	80.8	82.1	83.0	83.2	83.6	83.9	84.0	84.1	84.1	84.1	84.1	84.1	84.1	84.1
IV 1200	46.8	81.2	82.2	83.9	84.9	85.4	85.8	86.0	86.1	86.3	86.4	86.4	86.4	86.4	86.4	86.4
IV 1000	47.7	82.5	83.6	85.2	86.3	86.8	87.3	87.5	87.6	87.8	88.0	88.0	88.0	88.0	88.0	88.0
IV 900	47.7	82.7	84.0	85.8	86.8	87.3	87.8	88.0	88.1	88.3	88.5	88.5	88.5	88.5	88.5	88.5
IV 800	48.3	83.4	84.7	86.6	87.9	88.4	89.0	89.4	89.7	89.8	90.0	90.0	90.0	90.0	90.0	90.0
IV 700	48.3	83.7	85.1	87.4	88.9	89.5	90.2	90.5	90.8	90.9	91.3	91.3	91.3	91.3	91.3	91.3
IV 600	48.2	84.1	85.8	88.1	89.9	90.5	91.2	91.7	92.2	92.4	92.8	92.8	92.8	92.8	92.8	92.8
IV 500	48.2	84.4	86.1	88.7	90.5	91.3	91.9	92.4	93.1	93.4	94.1	94.1	94.1	94.1	94.1	94.1
IV 400	48.2	84.7	86.6	89.5	91.4	92.4	93.2	94.1	94.8	95.2	96.0	96.2	96.3	96.5	96.5	96.5
IV 300	48.2	84.9	86.8	89.7	91.6	92.7	93.4	94.7	95.5	96.2	97.1	97.4	97.6	97.9	97.9	97.9
IV 200	48.2	84.9	86.8	89.7	91.6	92.8	93.7	95.2	96.2	97.1	98.4	98.6	99.0	99.2	99.2	99.2
IV 100	48.2	84.9	86.8	89.7	91.6	92.8	93.7	95.2	96.2	97.2	98.5	98.7	99.4	99.9	99.9	99.9
IV 0	48.2	84.9	86.8	89.7	91.6	92.8	93.7	95.2	96.2	97.2	98.5	98.7	99.4	99.9	99.9	99.9

TOTAL NUMBER OF OBSERVATIONS 793

GLOBAL CLIMATOLOGY BRANCH
WAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

122592
STATION

PHILIPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

APR
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

1200-1400
HOURS (LT)

CEILING FEET	VISIBILITY STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1.25	≥ 1	≥ .75	≥ .5	≥ .25	≥ .1	≥ .05	≥ 0
NO CEILING	28.4	45.5	45.8	45.8	45.9	45.9	45.9	45.9	45.9	45.9	45.9	45.9	45.9	45.9	45.9	45.9
≥ 20000	32.4	52.7	53.0	53.0	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1
≥ 18000	32.4	52.7	53.0	53.0	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1
≥ 16000	32.4	52.7	53.0	53.0	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1
≥ 14000	32.6	53.1	53.4	53.4	53.5	53.5	53.5	53.5	53.5	53.5	53.5	53.5	53.5	53.5	53.5	53.5
≥ 12000	33.1	54.2	54.5	54.5	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6
≥ 10000	33.6	56.3	56.5	56.5	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7
≥ 9000	34.2	56.9	57.2	57.2	57.3	57.3	57.3	57.3	57.3	57.3	57.3	57.3	57.3	57.3	57.3	57.3
≥ 8000	35.4	57.3	59.6	59.7	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8
≥ 7000	36.5	59.4	60.2	60.3	60.5	60.5	60.5	60.5	60.5	60.5	60.5	60.5	60.5	60.5	60.5	60.5
≥ 6000	37.1	60.8	61.1	61.2	61.3	61.3	61.3	61.3	61.3	61.3	61.3	61.3	61.3	61.3	61.3	61.3
≥ 5000	38.1	62.5	62.7	62.9	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0
≥ 4500	39.5	64.6	64.9	65.0	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4
≥ 4000	40.5	66.0	66.3	66.5	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0
≥ 3500	41.1	67.0	67.3	67.8	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3
≥ 3000	42.1	67.2	67.5	70.1	70.6	70.6	70.6	70.6	70.6	70.6	70.6	70.6	70.6	70.6	70.6	70.6
≥ 2500	45.4	74.8	75.0	75.7	76.2	76.2	76.3	76.3	76.3	76.3	76.3	76.3	76.3	76.3	76.3	76.3
≥ 2000	46.1	77.6	78.1	78.7	79.2	79.3	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6
≥ 1800	46.4	79.8	79.3	80.0	80.5	80.6	81.0	81.0	81.0	81.0	81.0	81.0	81.0	81.0	81.0	81.0
≥ 1500	48.4	82.5	83.4	84.0	84.8	84.9	85.4	85.6	85.6	85.7	85.8	85.8	85.8	85.8	85.8	85.8
≥ 1200	49.4	84.0	85.2	85.8	86.8	86.9	87.5	87.6	87.6	87.7	88.0	88.0	88.0	88.0	88.0	88.0
≥ 1000	49.8	84.8	86.7	87.5	88.8	89.0	89.6	89.9	89.9	90.0	90.2	90.2	90.2	90.2	90.2	90.2
≥ 900	49.9	85.2	87.1	88.0	89.4	89.5	90.1	90.5	90.6	90.7	91.0	91.0	91.0	91.0	91.0	91.0
≥ 800	49.8	85.4	87.5	88.7	90.1	90.4	91.0	91.5	91.6	91.8	92.0	92.0	92.1	92.1	92.1	92.1
≥ 700	49.8	85.6	88.0	89.5	91.0	91.4	92.0	92.8	92.9	93.0	93.3	93.3	93.4	93.4	93.4	93.4
≥ 600	49.8	85.8	88.2	90.0	91.6	92.0	92.8	93.8	93.9	94.2	94.4	94.4	94.6	94.6	94.6	94.6
≥ 500	49.8	85.8	88.2	90.1	91.9	92.3	93.0	94.2	94.4	94.7	94.9	94.9	95.1	95.1	95.1	95.1
≥ 400	49.8	85.8	88.2	90.1	91.9	92.5	93.5	95.3	95.6	96.1	96.5	96.5	96.6	96.6	96.6	96.6
≥ 300	49.8	85.8	88.2	90.1	92.1	92.8	93.8	95.7	95.9	96.6	97.1	97.1	97.2	97.2	97.2	97.2
≥ 200	49.8	85.8	88.2	90.1	92.1	92.8	93.8	95.8	96.3	97.2	98.1	98.4	98.9	98.9	99.0	99.0
≥ 100	49.8	85.8	88.2	90.1	92.1	92.8	93.8	95.8	96.3	97.2	98.1	98.6	99.2	99.2	99.5	99.5
≥ 0	49.8	85.8	88.2	90.1	92.1	92.8	93.8	95.8	96.3	97.2	98.1	98.6	99.2	99.2	99.6	100.0

TOTAL NUMBER OF OBSERVATIONS 789

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

1. 0390
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

APR
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

1500-1700
HOURS, U.S.T.

CEILING FEET	VISIBILITY STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1	≥1	≥1	≥1	≥1	≥1	≥1	≥1
NO CEILING	24.6	47.4	47.4	47.4	47.5	47.5	47.5	47.5	47.5	47.5	47.5	47.5	47.5	47.5	47.5	47.5
≥ 20000	32.5	54.0	54.0	54.0	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1
IV 18000	32.5	54.0	54.0	54.0	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1
IV 16000	32.5	54.0	54.0	54.0	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1
IV 14000	32.5	54.1	54.1	54.1	54.2	54.2	54.2	54.2	54.2	54.2	54.2	54.2	54.2	54.2	54.2	54.2
IV 12000	32.5	55.5	55.5	55.5	55.6	55.6	55.6	55.6	55.6	55.6	55.6	55.6	55.6	55.6	55.6	55.6
IV 10000	33.9	56.7	56.7	56.7	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9
IV 9000	34.2	57.0	57.0	57.0	57.1	57.1	57.1	57.1	57.1	57.1	57.1	57.1	57.1	57.1	57.1	57.1
IV 8000	35.3	59.1	59.1	59.1	59.3	59.3	59.3	59.3	59.3	59.3	59.3	59.3	59.3	59.3	59.3	59.3
IV 7000	36.1	60.4	60.4	60.4	60.5	60.5	60.5	60.5	60.5	60.5	60.5	60.5	60.5	60.5	60.5	60.5
IV 6000	36.7	61.5	61.5	61.5	61.7	61.7	61.7	61.7	61.7	61.7	61.7	61.7	61.7	61.7	61.7	61.7
IV 5000	37.7	63.1	63.1	63.1	63.2	63.2	63.2	63.2	63.2	63.2	63.2	63.2	63.2	63.2	63.2	63.2
IV 4500	40.0	66.6	66.7	66.8	67.2	67.2	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3
IV 4000	40.6	67.6	67.7	67.8	68.3	68.3	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.5
IV 3500	42.5	70.2	70.6	70.9	71.4	71.4	71.5	71.5	71.5	71.5	71.5	71.5	71.5	71.5	71.5	71.5
IV 3000	43.5	72.4	73.0	73.5	74.4	74.4	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7
IV 2500	46.5	76.8	77.4	77.9	78.8	78.8	79.1	79.1	79.2	79.2	79.2	79.2	79.2	79.2	79.2	79.2
IV 2000	48.0	79.2	79.8	80.3	81.2	81.3	81.7	81.8	82.0	82.0	82.0	82.0	82.1	82.1	82.1	82.1
IV 1800	48.3	80.1	81.0	81.6	82.5	82.6	83.0	83.1	83.2	83.2	83.2	83.2	83.4	83.4	83.4	83.4
IV 1500	49.4	82.7	83.9	84.7	85.6	85.8	86.3	86.4	86.5	86.8	86.8	86.8	86.9	86.9	86.9	86.9
IV 1200	50.2	83.6	85.2	86.1	87.1	87.3	87.8	88.0	88.1	88.4	88.5	88.5	88.7	88.7	88.7	88.7
IV 1000	50.5	84.1	86.1	87.4	88.5	88.7	89.2	89.4	89.5	89.8	90.0	90.2	90.3	90.3	90.3	90.3
IV 900	50.7	84.9	87.0	88.3	89.7	89.8	90.3	90.5	90.7	90.9	91.2	91.3	91.4	91.4	91.4	91.4
IV 800	50.7	85.0	87.4	88.8	90.4	90.5	91.0	91.3	91.6	91.9	92.2	92.3	92.6	92.6	92.6	92.6
IV 700	50.7	85.4	87.8	89.5	91.6	91.7	92.2	92.7	92.9	93.3	93.6	93.7	93.9	93.9	93.9	93.9
IV 600	50.7	85.5	87.9	89.8	92.1	92.2	92.7	93.2	93.4	93.8	94.2	94.3	94.6	94.6	94.6	94.6
IV 500	50.7	85.6	88.0	90.0	92.7	92.8	93.4	94.1	94.3	94.8	95.3	95.5	95.7	95.7	95.7	95.7
IV 400	50.7	85.6	88.1	90.2	92.8	92.9	93.8	94.8	95.3	96.1	97.0	97.1	97.5	97.5	97.5	97.5
IV 300	50.7	85.6	88.1	90.2	92.8	93.1	94.1	95.6	96.2	97.0	98.0	98.1	98.5	98.6	98.6	98.6
IV 200	50.7	85.6	88.1	90.2	92.8	93.2	94.2	95.8	96.5	97.2	98.4	98.7	99.1	99.2	99.2	99.2
IV 100	50.7	85.6	88.1	90.2	92.8	93.2	94.2	95.8	96.5	97.2	98.5	98.9	99.2	99.5	99.6	99.6
IV 0	50.7	85.6	88.1	90.2	92.8	93.2	94.2	95.8	96.5	97.2	98.5	98.9	99.2	99.5	99.7	100.0

TOTAL NUMBER OF OBSERVATIONS 193

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

73590
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

APR
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1800-2000
HOURS

CEILING FEET	VISIBILITY STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2.7	≥ 2	≥ 1.7	≥ 1.4	≥ 1	≥ .7	≥ .5	≥ .3	≥ .16	≥ .1	≥ 0
NO CEILING	26.5	43.4	43.6	43.6	43.8	43.8	43.8	43.8	43.8	43.8	43.8	43.8	43.8	43.8	43.8	43.8
≥ 20000	30.8	51.1	51.3	51.3	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5
IV 18000	30.8	51.3	51.6	51.6	51.7	51.7	51.7	51.7	51.7	51.7	51.7	51.7	51.7	51.7	51.7	51.7
IV 16000	30.8	51.3	51.6	51.6	51.7	51.7	51.7	51.7	51.7	51.7	51.7	51.7	51.7	51.7	51.7	51.7
IV 14000	31.1	51.8	52.1	52.1	52.2	52.2	52.2	52.2	52.2	52.2	52.2	52.2	52.2	52.2	52.2	52.2
IV 12000	31.5	53.0	53.2	53.2	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3
IV 10000	32.4	54.1	54.4	54.4	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5
IV 9000	32.4	54.2	54.5	54.5	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6
IV 8000	34.0	57.4	57.9	57.9	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0
IV 7000	35.7	59.3	59.8	59.8	59.9	59.9	59.9	59.9	59.9	59.9	59.9	59.9	59.9	59.9	59.9	59.9
IV 6000	35.4	59.8	60.3	60.4	60.7	60.7	60.7	60.7	60.7	60.9	61.0	61.0	61.0	61.0	61.0	61.0
IV 5000	36.4	61.9	63.1	63.2	63.4	63.4	63.4	63.4	63.4	63.7	63.8	63.8	63.8	63.8	63.8	63.8
IV 4500	39.1	64.9	66.2	66.7	67.0	67.2	67.2	67.3	67.3	67.7	67.8	67.8	67.8	67.8	67.8	67.8
IV 4000	39.6	66.0	67.2	67.7	68.0	68.2	68.3	68.5	68.5	69.0	69.1	69.1	69.1	69.1	69.1	69.1
IV 3500	41.4	68.3	69.7	70.4	70.6	70.9	71.0	71.1	71.1	71.6	71.8	71.8	71.8	71.8	71.8	71.8
IV 3000	42.6	70.1	71.6	72.9	73.1	73.4	73.5	73.6	73.6	74.1	74.3	74.3	74.3	74.3	74.3	74.3
IV 2500	44.4	74.1	75.8	77.2	77.6	77.8	77.9	78.1	78.1	78.6	78.7	78.7	78.7	78.7	78.7	78.7
IV 2000	47.0	77.3	79.2	80.7	81.1	81.3	81.5	81.7	81.7	82.3	82.5	82.5	82.5	82.5	82.5	82.5
IV 1800	47.3	77.9	79.9	81.5	81.8	82.1	82.2	82.5	82.5	83.1	83.2	83.2	83.2	83.2	83.2	83.2
IV 1500	47.3	79.4	81.6	83.1	83.9	84.1	84.4	84.7	84.7	85.4	85.5	85.5	85.5	85.5	85.5	85.5
IV 1200	47.4	79.8	82.2	83.7	84.5	85.0	85.2	85.6	85.8	86.5	86.6	86.6	86.6	86.6	86.6	86.6
IV 1000	47.7	80.3	83.0	84.7	85.8	86.3	86.6	87.1	87.3	88.1	88.4	88.4	88.4	88.4	88.4	88.4
IV 900	47.8	80.6	83.5	85.2	86.3	86.9	87.3	87.8	87.9	88.8	89.0	89.0	89.0	89.0	89.0	89.0
IV 800	48.0	81.3	84.2	86.0	87.0	87.6	88.0	88.8	88.9	89.8	90.0	90.0	90.0	90.0	90.0	90.0
IV 700	48.1	82.0	84.9	86.8	87.9	88.5	88.9	89.8	89.9	90.8	91.0	91.0	91.0	91.0	91.0	91.0
IV 600	48.0	82.0	84.9	86.9	88.3	88.9	89.9	90.8	90.9	91.9	92.2	92.2	92.2	92.2	92.2	92.2
IV 500	48.0	82.1	85.5	87.5	89.2	90.0	91.3	92.3	92.4	93.4	94.1	94.2	94.3	94.6	94.6	94.6
IV 400	48.0	82.1	85.5	87.6	89.5	90.7	92.2	93.4	93.8	95.7	96.6	96.7	96.8	97.1	97.1	97.1
IV 300	48.2	82.2	85.6	87.8	89.7	91.0	92.8	94.1	94.5	96.6	97.6	97.7	97.9	98.1	98.1	98.1
IV 200	48.2	82.2	85.6	87.8	89.7	91.0	92.8	94.3	94.7	97.2	98.6	98.7	98.9	99.1	99.1	99.1
IV 100	48.2	82.2	85.6	87.8	89.7	91.0	92.8	94.3	94.8	97.4	98.7	98.9	99.0	99.4	99.6	99.7
IV 0	48.2	82.2	85.6	87.8	89.7	91.0	92.8	94.3	94.8	97.4	98.7	98.9	99.0	99.4	99.6	100.0

TOTAL NUMBER OF OBSERVATIONS

793

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

726392
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

APP
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

2100-2300
HOURS, EST

CEILING FEET	VISIBILITY - STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1.4	≥1	≥.75	≥.5	≥.25	≥.16	≥.1	≥0
NO CEILING ≥ 20000	29.1 50.2	48.0 51.4	49.1 52.5	49.4 52.8	49.6 53.0	49.6 53.0	49.6 53.0	49.6 53.0	49.6 53.0	49.6 53.0	49.6 53.0	49.6 53.0	49.6 53.0	49.6 53.0	49.6 53.0	49.6 53.0
IV ≥ 18000	30.2	51.9	52.5	52.8	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0
IV ≥ 16000	30.2	51.9	52.5	52.8	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0
IV ≥ 14000	30.3	52.1	52.6	53.0	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1
IV ≥ 12000	30.6	52.3	52.8	53.2	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3
IV ≥ 10000	31.4	53.0	54.1	54.5	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6
IV ≥ 9000	31.7	53.8	54.3	54.7	54.8	54.8	54.8	54.8	54.8	54.8	54.8	54.8	54.8	54.8	54.8	54.8
IV ≥ 8000	32.3	54.8	55.3	55.7	55.8	55.8	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2
IV ≥ 7000	33.3	56.2	56.9	57.2	57.4	57.4	57.7	57.9	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0
IV ≥ 6000	34.5	59.0	58.6	59.0	59.1	59.1	59.5	59.6	59.7	59.7	59.7	59.7	59.7	59.7	59.7	59.7
IV ≥ 5000	36.5	61.6	62.3	62.9	63.1	63.1	63.5	63.6	63.8	63.8	63.8	63.8	63.8	63.8	63.8	63.8
IV ≥ 4500	38.2	64.4	65.2	65.8	66.2	66.2	66.5	66.7	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8
IV ≥ 4000	38.4	65.2	65.9	66.7	67.0	67.0	67.4	67.7	67.8	67.8	67.8	67.8	67.8	67.9	67.9	67.9
IV ≥ 3500	39.9	67.7	68.8	69.8	70.2	70.2	70.6	70.8	70.9	70.9	70.9	70.9	71.1	71.1	71.1	71.1
IV ≥ 3000	41.9	70.8	71.9	73.0	73.3	73.3	73.7	74.0	74.1	74.1	74.1	74.1	74.2	74.2	74.2	74.2
IV ≥ 2500	43.5	73.7	75.1	76.1	76.5	76.5	77.0	77.2	77.4	77.4	77.4	77.4	77.5	77.5	77.5	77.5
IV ≥ 2000	44.6	76.1	77.7	78.9	79.5	79.5	80.1	80.4	80.5	80.5	80.5	80.5	80.6	80.6	80.6	80.6
IV ≥ 1800	44.9	76.9	78.6	79.9	80.5	80.5	81.1	81.4	81.5	81.5	81.5	81.5	81.6	81.6	81.6	81.6
IV ≥ 1500	45.5	78.6	80.6	82.0	82.9	82.9	83.6	83.9	84.0	84.0	84.0	84.0	84.2	84.2	84.2	84.2
IV ≥ 1200	45.7	79.2	81.4	82.8	83.8	83.8	84.5	84.8	84.9	84.9	84.9	84.9	85.0	85.0	85.0	85.0
IV ≥ 1000	46.0	80.4	82.9	84.5	85.5	85.7	86.5	86.9	87.0	87.0	87.0	87.0	87.2	87.2	87.2	87.2
IV ≥ 900	46.3	80.5	83.0	84.7	85.8	85.9	86.8	87.2	87.3	87.3	87.3	87.3	87.4	87.4	87.4	87.4
IV ≥ 800	46.2	80.9	83.5	85.2	86.3	86.4	87.4	87.8	87.9	87.9	87.9	87.9	88.1	88.1	88.1	88.1
IV ≥ 700	46.2	81.3	84.0	85.9	87.5	87.7	89.1	89.4	89.6	89.6	89.7	89.7	89.8	89.8	89.8	89.8
IV ≥ 600	46.4	82.0	85.2	87.2	89.2	89.3	90.9	91.9	92.1	92.1	92.2	92.2	92.3	92.3	92.3	92.3
IV ≥ 500	46.7	82.5	85.8	88.3	91.1	91.3	93.1	94.2	94.3	94.5	94.6	94.6	94.7	94.7	94.7	94.7
IV ≥ 400	46.9	83.1	86.8	89.3	92.3	92.6	95.0	96.4	96.5	96.7	97.0	97.0	97.1	97.1	97.1	97.1
IV ≥ 300	46.8	83.3	86.9	89.6	92.6	92.8	95.3	96.7	96.9	97.4	97.6	97.6	97.7	97.7	97.9	97.9
IV ≥ 200	46.8	83.3	86.9	89.6	93.0	93.2	95.8	97.4	97.5	98.9	99.1	99.1	99.2	99.2	99.4	99.4
IV ≥ 100	46.9	83.3	86.9	89.6	93.0	93.2	95.8	97.4	97.5	98.9	99.1	99.1	99.4	99.4	99.5	99.5
IV ≥ 0	46.8	83.3	86.9	89.6	93.0	93.2	95.8	97.4	97.5	98.9	99.1	99.1	99.4	99.4	99.5	100.0

TOTAL NUMBER OF OBSERVATIONS 795

GLOBAL CLIMATOLOGY BRANCH
METEOROLOGICAL
AIR WEATHER SERVICE/MAL

CEILING VERSUS VISIBILITY

12639
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

APR
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

ALL
HOURS 1-24

CEILING FEET	VISIBILITY STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1.0	≥ .75	≥ .5	≥ .25	≥ .15	≥ .1	≥ .05	≥ 0
NO CEILING	29.4	47.1	47.4	47.6	47.7	47.7	47.7	47.8	47.8	47.8	47.8	47.8	47.9	47.9	47.9	47.9
≥ 20000	31.4	52.3	52.6	52.8	52.9	52.9	52.9	53.0	53.0	53.0	53.1	53.1	53.1	53.1	53.1	53.1
≥ 18000	31.4	52.3	52.6	52.8	52.9	52.9	53.0	53.0	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.2
≥ 16000	31.4	52.3	52.6	52.8	52.9	52.9	53.0	53.0	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.2
≥ 14000	32.0	52.7	53.0	53.1	53.3	53.3	53.3	53.4	53.4	53.4	53.4	53.4	53.5	53.5	53.5	53.5
≥ 12000	32.4	53.4	53.7	53.9	54.0	54.0	54.1	54.1	54.2	54.2	54.2	54.2	54.2	54.2	54.2	54.3
≥ 10000	33.1	54.8	55.1	55.3	55.4	55.4	55.5	55.6	55.6	55.6	55.6	55.6	55.6	55.6	55.7	55.7
≥ 9000	33.3	55.0	55.3	55.5	55.6	55.6	55.7	55.7	55.8	55.8	55.8	55.8	55.8	55.8	55.9	55.9
≥ 8000	34.6	57.2	57.5	57.7	57.9	57.9	58.0	58.0	58.1	58.1	58.1	58.1	58.2	58.2	58.2	58.2
≥ 7000	35.6	58.6	59.0	59.2	59.3	59.4	59.5	59.6	59.6	59.7	59.7	59.7	59.7	59.7	59.7	59.8
≥ 6000	36.3	59.8	60.1	60.4	60.5	60.6	60.7	60.8	60.9	60.9	61.0	61.0	61.0	61.0	61.0	61.0
≥ 5000	37.6	62.2	62.7	63.0	63.3	63.3	63.5	63.6	63.7	63.8	63.8	63.8	63.8	63.8	63.9	63.9
≥ 4500	39.1	64.6	65.2	65.6	65.9	66.0	66.2	66.4	66.5	66.6	66.6	66.6	66.7	66.7	66.7	66.7
≥ 4000	39.5	65.6	66.2	66.7	67.1	67.2	67.5	67.6	67.7	67.9	67.9	67.9	67.9	67.9	68.0	68.0
≥ 3500	40.6	67.7	68.4	68.9	69.4	69.5	69.8	70.0	70.1	70.2	70.3	70.3	70.3	70.3	70.4	70.4
≥ 3000	41.9	69.8	70.6	71.3	71.9	72.0	72.3	72.5	72.6	72.7	72.8	72.8	72.8	72.9	72.9	73.0
≥ 2500	43.7	73.4	74.4	75.1	75.8	75.9	76.3	76.5	76.5	76.7	76.8	76.8	76.8	76.8	76.9	76.9
≥ 2000	45.1	76.0	77.1	78.0	78.7	78.9	79.3	79.6	79.6	79.8	79.9	79.9	80.0	80.0	80.0	80.1
≥ 1800	45.5	76.9	78.1	79.0	79.8	79.9	80.3	80.6	80.7	80.9	80.9	80.9	81.0	81.0	81.1	81.1
≥ 1500	46.6	79.6	80.9	81.9	82.8	83.0	83.5	83.8	83.8	84.1	84.2	84.2	84.2	84.2	84.3	84.3
≥ 1200	47.1	80.7	82.2	83.3	84.3	84.5	85.0	85.3	85.4	85.7	85.9	85.9	85.9	85.9	86.0	86.0
≥ 1000	47.6	81.6	83.4	84.7	85.7	86.0	86.6	87.0	87.1	87.4	87.6	87.6	87.6	87.7	87.7	87.7
≥ 900	47.7	81.9	83.8	85.1	86.2	86.5	87.1	87.5	87.6	87.9	88.1	88.2	88.2	88.2	88.3	88.3
≥ 800	47.8	82.2	84.3	85.7	86.9	87.2	87.9	88.4	88.6	88.9	89.2	89.2	89.2	89.3	89.3	89.4
≥ 700	47.8	82.8	85.3	86.6	88.0	88.4	89.2	89.8	89.9	90.3	90.6	90.6	90.7	90.7	90.8	90.8
≥ 600	47.8	83.1	85.4	87.1	88.8	89.2	90.1	90.9	91.0	91.5	91.8	91.8	91.9	91.9	92.0	92.0
≥ 500	47.9	83.4	85.8	87.8	89.6	90.3	91.3	92.2	92.5	93.0	93.5	93.5	93.6	93.7	93.7	93.8
≥ 400	47.9	83.6	86.3	88.4	90.7	91.4	92.7	94.0	94.3	95.1	95.7	95.7	95.9	96.0	96.1	96.1
≥ 300	47.9	83.8	86.4	88.6	91.0	91.8	93.3	94.8	95.2	96.2	96.9	96.9	97.1	97.2	97.3	97.4
≥ 200	47.9	83.8	86.5	88.6	91.1	91.9	93.6	95.3	95.8	97.1	98.0	98.2	98.4	98.5	98.7	98.7
≥ 100	47.9	83.8	86.5	88.6	91.1	92.0	93.7	95.4	96.0	97.3	98.2	98.5	98.9	99.1	99.4	99.5
≥ 0	47.9	83.8	86.5	88.6	91.1	92.0	93.7	95.4	96.0	97.3	98.2	98.5	98.9	99.1	99.4	100.0

TOTAL NUMBER OF OBSERVATIONS 6333

USAF ETAC FORM 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

126390
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

MAY
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0000-0200
HOURS

CEILING FEET	VISIBILITY, STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2½	≥2	≥1½	≥1¼	≥1	≥¾	≥½	≥¼	≥⅓	≥⅒	≥0
NO CEILING	32.3	56.1	57.2	58.9	60.2	60.3	60.7	60.7	60.7	60.8	60.8	60.8	60.8	60.8	60.9	60.9
≥20000	34.5	58.9	60.4	62.5	63.9	64.0	64.4	64.4	64.4	64.5	64.5	64.5	64.5	64.5	64.6	64.6
IV 18000	34.5	58.9	60.4	62.5	63.9	64.0	64.4	64.4	64.4	64.5	64.5	64.5	64.5	64.5	64.6	64.6
IV 16000	34.5	58.9	60.4	62.5	63.9	64.0	64.4	64.4	64.4	64.5	64.5	64.5	64.5	64.5	64.6	64.6
IV 14000	34.5	58.9	60.4	62.5	63.9	64.0	64.4	64.4	64.4	64.5	64.5	64.5	64.5	64.5	64.6	64.6
IV 12000	34.8	59.4	61.2	63.3	64.6	64.7	65.1	65.1	65.1	65.2	65.2	65.2	65.2	65.2	65.4	65.4
IV 10000	35.6	61.0	62.8	64.9	66.2	66.3	66.8	66.8	66.8	67.0	67.0	67.0	67.0	67.0	67.1	67.1
IV 9000	35.9	61.4	63.1	65.2	66.6	66.7	67.2	67.2	67.2	67.3	67.3	67.3	67.3	67.3	67.4	67.4
IV 8000	37.1	63.6	65.5	67.7	69.1	69.2	69.7	69.7	69.7	69.8	69.8	69.8	69.8	69.8	69.9	69.9
IV 7000	37.5	65.0	66.8	69.1	70.5	70.7	71.1	71.1	71.1	71.3	71.3	71.3	71.3	71.3	71.4	71.4
IV 6000	37.9	66.5	68.6	70.9	72.4	72.5	73.0	73.0	73.0	73.1	73.1	73.1	73.1	73.1	73.2	73.2
IV 5000	40.1	69.9	72.3	75.1	76.6	76.7	77.4	77.4	77.4	77.6	77.6	77.6	77.6	77.6	77.7	77.7
IV 4500	42.3	72.3	74.7	77.8	79.3	79.4	80.1	80.3	80.3	80.4	80.4	80.4	80.4	80.4	80.5	80.5
IV 4000	42.3	72.3	74.7	77.8	79.3	79.4	80.1	80.3	80.3	80.4	80.4	80.4	80.4	80.4	80.5	80.5
IV 3500	42.3	72.3	74.7	77.8	79.3	79.4	80.1	80.3	80.3	80.4	80.4	80.4	80.4	80.4	80.5	80.5
IV 3000	43.0	75.2	77.7	81.0	82.5	82.6	83.5	83.6	83.6	83.7	83.7	83.7	83.7	83.7	83.8	83.8
IV 2500	44.4	77.6	80.0	83.5	85.0	85.1	85.9	86.1	86.1	86.2	86.2	86.2	86.2	86.2	86.3	86.3
IV 2000	44.5	78.1	80.6	84.1	85.6	85.7	86.6	86.7	86.7	86.8	86.8	86.8	86.8	86.8	86.9	86.9
IV 1800	45.0	78.8	81.4	84.8	86.3	86.4	87.3	87.4	87.4	87.5	87.5	87.5	87.5	87.5	87.7	87.7
IV 1500	46.2	80.5	83.1	86.7	88.2	88.3	89.3	89.4	89.4	89.5	89.5	89.5	89.5	89.5	89.6	89.6
IV 1200	46.7	81.1	83.7	87.3	88.8	88.9	89.9	90.0	90.0	90.1	90.1	90.1	90.1	90.1	90.3	90.3
IV 1000	47.2	82.1	85.0	88.8	90.3	90.4	91.5	91.6	91.6	91.7	91.7	91.7	91.7	91.7	91.9	91.9
IV 900	47.2	82.1	85.0	88.8	90.3	90.4	91.5	91.6	91.6	91.7	91.7	91.7	91.7	91.7	91.9	91.9
IV 800	47.5	82.5	85.3	89.3	90.9	91.0	92.1	92.2	92.2	92.4	92.4	92.4	92.4	92.4	92.6	92.6
IV 700	47.7	82.7	85.8	89.9	91.5	91.6	92.7	92.8	92.8	93.0	93.0	93.0	93.0	93.0	93.2	93.2
IV 600	47.8	82.9	86.4	90.8	92.4	92.5	93.6	93.7	93.7	93.8	93.8	93.8	93.8	93.8	94.1	94.1
IV 500	47.8	82.9	86.4	90.8	92.4	92.5	93.7	93.8	93.8	94.0	94.0	94.0	94.0	94.0	94.2	94.2
IV 400	47.8	82.9	86.6	91.9	94.2	94.5	95.7	95.9	95.9	96.1	96.1	96.1	96.1	96.1	96.3	96.3
IV 300	47.8	82.9	86.6	92.0	94.3	94.7	96.3	96.7	96.7	96.8	96.9	96.9	96.9	96.9	97.2	97.2
IV 200	47.8	82.9	86.6	92.2	94.7	95.1	96.8	97.2	97.2	97.9	98.2	98.2	98.2	98.2	98.4	98.4
IV 100	47.8	82.9	86.7	92.4	94.8	95.2	97.2	97.7	97.8	98.6	99.0	99.0	99.0	99.0	99.3	99.3
IV 0	47.8	82.9	86.7	92.4	94.8	95.2	97.2	97.7	97.8	98.6	99.0	99.0	99.0	99.0	99.8	99.8

TOTAL NUMBER OF OBSERVATIONS 811

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/740

CEILING VERSUS VISIBILITY

10039 PHLEPS-COLLINS/ALPENA MI

73-81

MAY

STATION

STATION NAME

YEARS

MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

0300-0500
HOURS

CEILING FEET	VISIBILITY STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1.4	≥1	≥.4	≥.3	≥.25	≥.2	≥.15	≥.1
NO CEILING	51.1	52.5	54.2	55.8	56.9	57.2	57.9	58.4	58.4	58.7	58.7	58.7	58.7	58.7	58.7	58.9
≥ 20000	51.1	54.6	56.3	58.1	59.4	59.7	60.4	61.0	61.0	61.3	61.3	61.3	61.3	61.3	61.3	61.5
≥ 18000	51.1	54.6	56.3	58.1	59.4	59.7	60.4	61.0	61.0	61.3	61.3	61.3	61.3	61.3	61.3	61.5
≥ 16000	51.1	54.6	56.3	58.1	59.4	59.7	60.4	61.0	61.0	61.3	61.3	61.3	61.3	61.3	61.3	61.5
≥ 14000	51.1	54.6	56.3	58.1	59.4	59.7	60.4	61.0	61.0	61.3	61.3	61.3	61.3	61.3	61.3	61.5
≥ 12000	51.1	54.6	56.3	58.1	59.4	59.7	60.4	61.0	61.0	61.3	61.3	61.3	61.3	61.3	61.3	61.5
≥ 10000	51.1	54.6	56.3	58.1	59.4	59.7	60.4	61.0	61.0	61.3	61.3	61.3	61.3	61.3	61.3	61.5
≥ 9000	51.1	54.6	56.3	58.1	59.4	59.7	60.4	61.0	61.0	61.3	61.3	61.3	61.3	61.3	61.3	61.5
≥ 8000	51.1	54.6	56.3	58.1	59.4	59.7	60.4	61.0	61.0	61.3	61.3	61.3	61.3	61.3	61.3	61.5
≥ 7000	51.1	54.6	56.3	58.1	59.4	59.7	60.4	61.0	61.0	61.3	61.3	61.3	61.3	61.3	61.3	61.5
≥ 6000	51.1	54.6	56.3	58.1	59.4	59.7	60.4	61.0	61.0	61.3	61.3	61.3	61.3	61.3	61.3	61.5
≥ 5000	51.1	54.6	56.3	58.1	59.4	59.7	60.4	61.0	61.0	61.3	61.3	61.3	61.3	61.3	61.3	61.5
≥ 4500	51.1	54.6	56.3	58.1	59.4	59.7	60.4	61.0	61.0	61.3	61.3	61.3	61.3	61.3	61.3	61.5
≥ 4000	51.1	54.6	56.3	58.1	59.4	59.7	60.4	61.0	61.0	61.3	61.3	61.3	61.3	61.3	61.3	61.5
≥ 3500	51.1	54.6	56.3	58.1	59.4	59.7	60.4	61.0	61.0	61.3	61.3	61.3	61.3	61.3	61.3	61.5
≥ 3000	51.1	54.6	56.3	58.1	59.4	59.7	60.4	61.0	61.0	61.3	61.3	61.3	61.3	61.3	61.3	61.5
≥ 2500	51.1	54.6	56.3	58.1	59.4	59.7	60.4	61.0	61.0	61.3	61.3	61.3	61.3	61.3	61.3	61.5
≥ 2000	51.1	54.6	56.3	58.1	59.4	59.7	60.4	61.0	61.0	61.3	61.3	61.3	61.3	61.3	61.3	61.5
≥ 1800	51.1	54.6	56.3	58.1	59.4	59.7	60.4	61.0	61.0	61.3	61.3	61.3	61.3	61.3	61.3	61.5
≥ 1500	51.1	54.6	56.3	58.1	59.4	59.7	60.4	61.0	61.0	61.3	61.3	61.3	61.3	61.3	61.3	61.5
≥ 1200	51.1	54.6	56.3	58.1	59.4	59.7	60.4	61.0	61.0	61.3	61.3	61.3	61.3	61.3	61.3	61.5
≥ 1000	51.1	54.6	56.3	58.1	59.4	59.7	60.4	61.0	61.0	61.3	61.3	61.3	61.3	61.3	61.3	61.5
≥ 900	51.1	54.6	56.3	58.1	59.4	59.7	60.4	61.0	61.0	61.3	61.3	61.3	61.3	61.3	61.3	61.5
≥ 800	51.1	54.6	56.3	58.1	59.4	59.7	60.4	61.0	61.0	61.3	61.3	61.3	61.3	61.3	61.3	61.5
≥ 700	51.1	54.6	56.3	58.1	59.4	59.7	60.4	61.0	61.0	61.3	61.3	61.3	61.3	61.3	61.3	61.5
≥ 600	51.1	54.6	56.3	58.1	59.4	59.7	60.4	61.0	61.0	61.3	61.3	61.3	61.3	61.3	61.3	61.5
≥ 500	51.1	54.6	56.3	58.1	59.4	59.7	60.4	61.0	61.0	61.3	61.3	61.3	61.3	61.3	61.3	61.5
≥ 400	51.1	54.6	56.3	58.1	59.4	59.7	60.4	61.0	61.0	61.3	61.3	61.3	61.3	61.3	61.3	61.5
≥ 300	51.1	54.6	56.3	58.1	59.4	59.7	60.4	61.0	61.0	61.3	61.3	61.3	61.3	61.3	61.3	61.5
≥ 200	51.1	54.6	56.3	58.1	59.4	59.7	60.4	61.0	61.0	61.3	61.3	61.3	61.3	61.3	61.3	61.5
≥ 100	51.1	54.6	56.3	58.1	59.4	59.7	60.4	61.0	61.0	61.3	61.3	61.3	61.3	61.3	61.3	61.5
≥ 0	51.1	54.6	56.3	58.1	59.4	59.7	60.4	61.0	61.0	61.3	61.3	61.3	61.3	61.3	61.3	61.5

TOTAL NUMBER OF OBSERVATIONS 800

USAF ETAC FORM 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

STATION 73-81
PHELPS-COLLINS/ALPENA MI

73-81

YEAR

MAY

MONTH

STATION NAME

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0600-0800
HOURS, LST

CEILING FEET	VISIBILITY STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1	≥0.5	≥0.25	≥0.1	≥0.05	≥0.025	≥0.01	≥0
NO CEILING	28.2	45.7	47.7	49.0	51.0	51.1	51.3	51.8	51.8	52.0	52.1	52.1	52.2	52.2	52.3	52.4
≥ 20000	29.6	49.4	51.7	52.2	54.5	54.6	54.9	55.4	55.4	55.5	55.6	55.6	55.7	55.7	55.9	56.0
≥ 18000	29.6	49.4	51.7	52.2	54.5	54.6	54.9	55.4	55.4	55.5	55.6	55.6	55.7	55.7	55.9	56.0
≥ 16000	29.6	49.4	51.7	52.2	54.5	54.6	54.9	55.4	55.4	55.5	55.6	55.6	55.7	55.7	55.9	56.0
≥ 14000	29.6	49.4	51.7	52.2	54.5	54.6	54.9	55.4	55.4	55.5	55.6	55.6	55.7	55.7	55.9	56.0
≥ 12000	30.0	50.4	51.7	53.3	55.9	56.0	56.2	56.7	56.7	57.0	57.1	57.1	57.2	57.2	57.3	57.5
≥ 10000	30.7	52.3	53.9	55.5	58.4	58.6	58.9	59.4	59.4	59.7	59.8	59.8	59.9	59.9	60.0	60.1
≥ 9000	30.4	52.4	54.0	55.6	58.6	58.7	59.0	59.5	59.5	59.8	59.9	59.9	60.0	60.0	60.1	60.3
≥ 8000	32.3	55.3	56.8	58.4	61.4	61.5	61.9	62.3	62.3	62.6	62.7	62.7	62.8	62.8	63.0	63.1
≥ 7000	33.1	56.8	58.4	60.0	63.0	63.1	63.6	64.1	64.1	64.3	64.4	64.4	64.5	64.5	64.7	64.8
≥ 6000	34.2	57.2	59.8	61.6	64.8	64.9	65.5	66.0	66.0	66.3	66.4	66.4	66.5	66.5	66.6	66.7
≥ 5000	35.6	60.8	62.5	64.5	68.0	68.2	68.8	69.3	69.3	69.6	69.7	69.7	69.8	69.8	69.9	70.0
≥ 4500	38.3	64.1	66.1	68.2	71.6	72.1	72.7	73.5	73.6	73.8	74.0	74.0	74.1	74.1	74.2	74.3
≥ 4000	38.3	64.8	66.9	69.1	72.5	73.0	73.6	74.3	74.4	74.7	74.8	74.8	74.9	74.9	75.1	75.2
≥ 3500	39.6	66.4	68.5	70.7	74.4	74.9	75.6	76.3	76.4	76.8	76.9	76.9	77.0	77.0	77.1	77.3
≥ 3000	40.3	68.2	70.5	72.7	76.7	77.3	78.0	78.7	78.9	79.2	79.3	79.3	79.5	79.5	79.6	79.7
≥ 2500	41.2	69.3	71.8	74.0	78.0	78.6	79.3	80.1	80.2	80.6	80.7	80.7	80.8	80.8	80.9	81.1
≥ 2000	42.4	71.4	73.8	76.0	80.1	80.7	81.5	82.3	82.4	82.8	82.9	82.9	83.0	83.0	83.1	83.3
≥ 1800	42.5	71.8	74.2	76.5	80.6	81.2	82.3	83.0	83.1	83.5	83.6	83.6	83.7	83.7	83.9	84.0
≥ 1500	42.7	73.3	75.8	78.2	82.4	83.0	84.2	85.0	85.1	85.5	85.6	85.6	85.7	85.7	85.8	85.9
≥ 1200	43.4	74.6	77.0	79.5	83.6	84.2	85.5	86.2	86.3	86.7	86.8	86.8	86.9	86.9	87.0	87.2
≥ 1000	43.8	75.4	77.9	80.3	84.5	85.1	86.3	87.0	87.2	87.5	87.7	87.7	87.9	87.9	88.0	88.1
≥ 900	44.3	76.0	78.5	80.9	85.1	85.7	86.9	87.8	87.9	88.3	88.4	88.4	88.6	88.6	88.8	88.9
≥ 800	44.4	76.4	78.9	81.3	85.5	86.1	87.3	88.1	88.3	88.6	88.8	88.8	89.0	89.0	89.1	89.2
≥ 700	44.4	77.1	79.8	82.3	86.6	87.3	88.6	89.5	89.6	90.1	90.2	90.2	90.5	90.5	90.6	90.7
≥ 600	44.5	77.9	80.7	83.1	87.4	88.1	89.7	90.6	90.7	91.2	91.3	91.3	91.6	91.6	91.7	91.8
≥ 500	44.5	78.1	80.9	83.6	88.0	88.9	90.6	91.7	91.8	92.4	92.7	92.7	92.9	92.9	93.0	93.2
≥ 400	44.7	78.5	81.3	84.5	89.5	90.3	92.2	93.5	93.8	94.9	95.4	95.4	95.6	95.6	95.7	95.8
≥ 300	44.7	78.5	81.3	84.5	89.6	90.7	92.7	94.1	94.5	95.6	96.3	96.3	96.6	96.6	96.7	96.8
≥ 200	44.7	78.5	81.3	84.5	89.7	91.0	93.0	95.0	95.4	96.8	97.6	97.6	97.8	97.9	98.5	98.7
≥ 100	44.7	78.5	81.3	84.5	89.7	91.0	93.0	95.1	95.5	97.1	97.9	97.9	98.3	98.5	99.4	99.9
≥ 0	44.7	78.5	81.3	84.5	89.7	91.0	93.0	95.1	95.5	97.1	97.9	97.9	98.3	98.5	99.4	100.0

TOTAL NUMBER OF OBSERVATIONS 818

USAF ETAC FORM 64 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

1239 PHELPS-COLLINS/ALPENA MI

73-81

MAY

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0900-1100

CEILING FEET	VISIBILITY STATUTE MILES															
	≥10	≥9	≥8	≥7	≥6	≥5	≥4	≥3	≥2	≥1	≥1/2	≥1/4	≥1/8	≥1/16	≥1/32	≥0
NO CEILING	32.4	44.2	44.8	50.4	51.4	52.1	52.1	52.3	52.3	52.3	52.3	52.3	52.3	52.3	52.3	52.3
≥20000	34.4	52.9	54.0	55.3	56.3	56.5	56.5	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7
≥18000	34.4	52.9	54.0	55.3	56.3	56.5	56.5	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7
≥16000	34.4	52.9	54.0	55.3	56.3	56.5	56.5	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7
≥14000	34.4	52.9	54.0	55.3	56.3	56.5	56.5	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7
≥12000	34.4	52.9	54.0	55.3	56.3	56.5	56.5	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7
≥10000	35.3	55.0	57.1	58.5	59.6	59.8	59.8	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
≥9000	35.3	55.0	57.1	58.5	59.6	59.8	59.8	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
≥8000	36.6	55.6	59.8	61.2	62.3	62.5	62.5	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6
≥7000	37.1	59.7	63.9	62.3	63.4	63.7	63.7	63.9	63.9	63.9	63.9	63.9	63.9	63.9	63.9	63.9
≥6000	37.5	63.4	61.7	63.2	64.3	64.7	64.7	64.8	64.8	64.8	64.8	64.8	64.8	64.8	64.8	64.8
≥5000	38.7	62.0	63.2	65.1	66.2	66.5	66.5	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7
≥4500	40.1	64.7	66.7	68.3	69.4	69.7	69.7	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
≥4000	41.1	65.4	67.4	69.0	70.2	70.6	70.8	70.9	70.9	70.9	70.9	70.9	70.9	70.9	70.9	70.9
≥3500	41.5	66.3	68.5	70.2	71.4	71.8	72.0	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2
≥3000	42.9	69.1	71.6	73.3	74.5	74.8	75.1	75.2	75.2	75.2	75.2	75.2	75.2	75.2	75.2	75.2
≥2500	45.1	72.9	75.3	77.2	78.4	78.8	79.0	79.1	79.1	79.1	79.1	79.1	79.1	79.1	79.1	79.1
≥2000	46.0	76.6	79.1	81.1	82.7	83.0	83.3	83.4	83.4	83.4	83.4	83.4	83.4	83.4	83.4	83.4
≥1800	46.5	77.5	80.1	82.1	83.8	84.1	84.4	84.5	84.5	84.5	84.5	84.5	84.5	84.5	84.5	84.5
≥1500	47.6	81.0	83.5	85.5	87.3	87.7	87.9	88.2	88.2	88.2	88.2	88.2	88.2	88.2	88.2	88.2
≥1200	48.1	82.4	85.1	87.2	89.0	89.5	89.7	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
≥1000	48.2	83.0	85.7	87.9	89.9	90.5	90.7	91.0	91.0	91.0	91.0	91.0	91.0	91.0	91.0	91.0
≥900	48.2	83.2	86.0	88.3	90.2	90.8	91.1	91.3	91.3	91.3	91.3	91.3	91.3	91.3	91.3	91.3
≥800	48.5	83.4	86.3	88.9	91.1	91.8	92.1	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4
≥700	48.6	83.6	86.6	89.5	91.9	92.8	93.3	93.8	93.8	93.8	93.8	93.8	93.8	93.8	93.8	93.8
≥600	48.6	83.8	86.8	89.7	92.4	93.3	93.8	94.3	94.3	94.3	94.3	94.3	94.3	94.3	94.3	94.3
≥500	48.6	83.9	87.2	90.2	93.2	94.3	95.0	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5
≥400	48.6	83.9	87.2	90.4	93.3	94.4	95.1	95.7	95.7	95.7	95.7	95.7	95.7	95.7	95.7	95.7
≥300	48.6	83.9	87.2	90.4	93.4	94.7	95.6	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3
≥200	48.6	83.9	87.2	90.4	93.4	94.7	95.6	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3
≥100	48.6	83.9	87.2	90.4	93.4	94.7	95.6	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3

TOTAL NUMBER OF OBSERVATIONS 819

USAF ETAC 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

AD-A116 099

AIR FORCE ENVIRONMENTAL TECHNICAL APPLICATIONS CENTER--ETC F/G 4/2
PHELPS-COLLINS, ALPENA, MICHIGAN, REVISED UNIFORM SUMMARY OF SU--ETC(11)
MAY 82

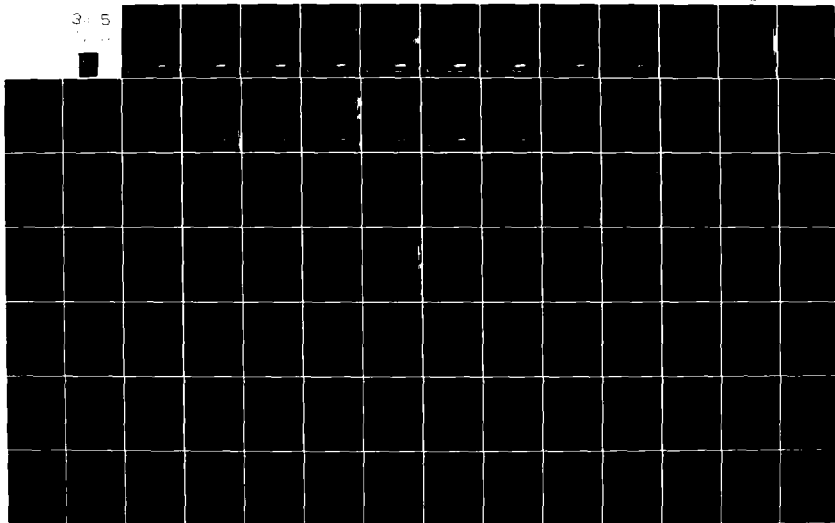
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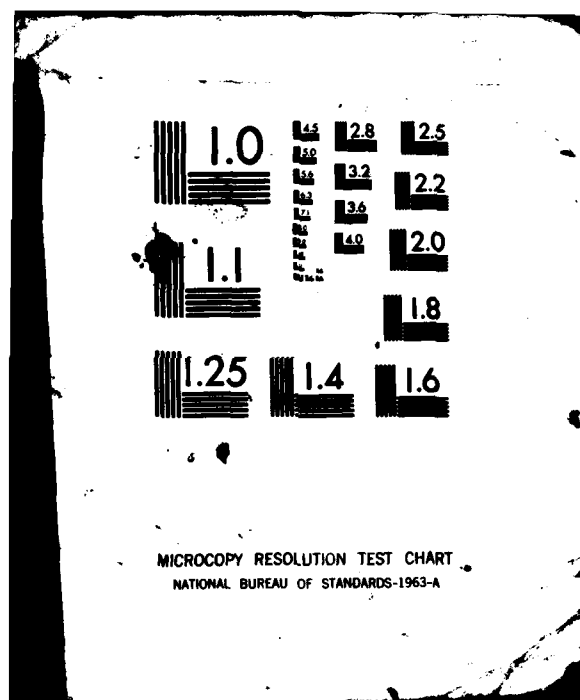
SBI-AD-E850 176

NL

3-5

1-1





GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAL

CEILING VERSUS VISIBILITY

726390
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

MAY
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1500-1700
HOURS (LST)

CEILING FEET	VISIBILITY (STATUTE MILES)															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2½	≥ 2	≥ 1½	≥ 1¼	≥ 1	≥ ¾	≥ ½	≥ ¼	≥ 1/8	≥ 0	≥ 0
NO CEILING	31.5	49.9	50.3	51.0	51.3	51.3	51.3	51.3	51.3	51.3	51.3	51.3	51.3	51.3	51.3	51.3
≥ 20000	35.5	56.8	57.4	58.1	58.4	58.4	58.4	58.4	58.4	58.4	58.4	58.4	58.4	58.4	58.4	58.4
≥ 18000	35.5	56.8	57.4	58.3	58.5	58.5	58.5	58.5	58.5	58.5	58.5	58.5	58.5	58.5	58.5	58.5
≥ 16000	35.5	56.8	57.4	58.3	58.5	58.5	58.5	58.5	58.5	58.5	58.5	58.5	58.5	58.5	58.5	58.5
≥ 14000	35.5	56.9	57.5	58.5	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8
≥ 12000	35.5	57.8	58.4	59.5	59.7	59.7	59.7	59.7	59.7	59.7	59.7	59.7	59.7	59.7	59.7	59.7
≥ 10000	36.6	61.0	61.6	62.7	62.9	62.9	62.9	62.9	62.9	62.9	62.9	62.9	62.9	62.9	62.9	62.9
≥ 9000	36.6	61.0	61.6	62.7	62.9	62.9	62.9	62.9	62.9	62.9	62.9	62.9	62.9	62.9	62.9	62.9
≥ 8000	37.3	62.5	63.2	64.4	64.7	64.9	64.9	64.9	64.9	64.9	64.9	64.9	64.9	64.9	64.9	64.9
≥ 7000	38.3	63.8	64.5	66.0	66.3	66.5	66.5	66.5	66.5	66.5	66.5	66.5	66.5	66.5	66.5	66.5
≥ 6000	39.2	65.0	65.9	67.3	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8	67.8	67.8	67.8	67.8
≥ 5000	40.5	66.6	67.9	69.6	70.0	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.1
≥ 4500	43.9	71.5	73.1	74.8	75.2	75.3	75.3	75.4	75.4	75.4	75.4	75.4	75.4	75.4	75.4	75.4
≥ 4000	44.4	73.2	75.2	76.9	77.4	77.5	77.5	77.6	77.6	77.6	77.6	77.6	77.6	77.6	77.6	77.6
≥ 3500	44.7	75.4	77.4	79.3	79.8	79.9	79.9	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0
≥ 3000	46.0	79.6	81.6	83.7	84.3	84.5	84.5	84.6	84.6	84.6	84.6	84.6	84.6	84.6	84.6	84.6
≥ 2500	47.5	83.0	85.3	87.5	88.1	88.4	88.6	88.7	88.7	88.7	88.7	88.7	88.7	88.7	88.7	88.7
≥ 2000	47.9	84.0	86.5	89.2	89.8	90.1	90.3	90.6	90.6	90.6	90.6	90.6	90.6	90.6	90.6	90.6
≥ 1800	48.1	84.6	87.1	89.8	90.5	90.7	91.1	91.3	91.3	91.3	91.3	91.3	91.3	91.3	91.3	91.3
≥ 1500	48.7	85.6	88.4	91.2	91.8	92.0	92.4	92.7	92.7	92.7	92.7	92.7	92.7	92.7	92.7	92.7
≥ 1200	49.1	86.3	89.2	92.8	92.7	92.9	93.3	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5
≥ 1000	49.1	87.0	90.2	93.4	94.0	94.4	94.7	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0
≥ 900	49.1	87.1	90.3	93.5	94.1	94.5	94.9	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1
≥ 800	49.2	87.3	90.5	93.6	94.4	94.7	95.2	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6
≥ 700	49.4	87.5	90.5	93.9	94.7	95.1	95.6	96.1	96.1	96.2	96.2	96.2	96.2	96.2	96.2	96.2
≥ 600	49.2	87.4	90.6	94.4	95.4	95.3	95.8	96.3	96.3	96.6	96.6	96.6	96.6	96.6	96.6	96.6
≥ 500	49.3	88.0	91.2	94.6	95.7	96.1	96.7	97.2	97.2	97.4	97.6	97.6	97.6	97.6	97.6	97.6
≥ 400	49.3	88.0	91.3	94.9	96.1	96.7	97.4	98.0	98.0	98.3	98.5	98.5	98.5	98.5	98.5	98.5
≥ 300	49.3	88.0	91.3	94.9	96.2	96.9	97.7	98.4	98.5	98.8	99.1	99.1	99.4	99.4	99.4	99.4
≥ 200	49.3	88.0	91.3	94.9	96.2	96.9	97.7	98.4	98.5	98.8	99.1	99.1	99.5	99.5	99.5	99.5
≥ 100	49.3	88.0	91.3	94.9	96.2	96.9	97.7	98.4	98.5	98.8	99.3	99.3	99.9	99.9	99.9	99.9
≥ 0	49.3	88.0	91.3	94.9	96.2	96.9	97.7	98.4	98.5	98.8	99.3	99.3	99.9	99.9	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 817

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

126590
STATION

PHILIPS-COLLINS/ALPENA MI
STATION NAME

75-81
YEARS

MAY
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

1800-2000
HOURS (LST)

CEILING (FEET)	VISIBILITY (STATUTE MILES)															
	≥10	≥6	≥5	≥4	≥3	≥2½	≥2	≥1½	≥1¼	≥1	≥¾	≥½	≥¼	≥3/16	≥¼	≥0
NO CEILING	32.0	50.5	51.7	52.4	52.8	52.8	52.8	52.8	52.8	52.8	52.8	52.8	52.8	52.8	52.8	52.8
≥ 20000	35.2	56.6	58.5	59.2	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6
≥ 18000	35.2	56.6	58.5	59.2	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6
≥ 16000	35.2	56.6	58.5	59.2	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6
≥ 14000	35.2	57.1	59.0	59.7	60.1	60.1	60.1	60.1	60.1	60.1	60.1	60.1	60.1	60.1	60.1	60.1
≥ 12000	35.9	58.9	60.8	61.7	62.0	62.0	62.0	62.0	62.0	62.0	62.0	62.0	62.0	62.0	62.0	62.0
≥ 10000	37.5	62.2	64.1	65.0	65.3	65.3	65.3	65.3	65.3	65.3	65.3	65.3	65.3	65.3	65.3	65.3
≥ 9000	37.6	62.3	64.2	65.1	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5
≥ 8000	38.8	64.1	66.2	67.3	67.8	67.8	67.9	67.9	67.9	67.9	68.0	68.0	68.0	68.0	68.0	68.1
≥ 7000	39.5	65.7	67.8	68.9	69.3	69.3	69.5	69.5	69.5	69.6	69.7	69.7	69.7	69.7	69.7	69.8
≥ 6000	40.1	67.4	69.5	70.8	71.0	71.0	71.2	71.3	71.3	71.4	71.4	71.4	71.4	71.4	71.4	71.5
≥ 5000	41.0	68.9	70.9	72.1	72.6	72.6	72.7	73.0	73.0	73.2	73.2	73.4	73.4	73.4	73.4	73.5
≥ 4500	43.7	73.2	75.3	76.5	77.0	77.0	77.1	77.4	77.4	77.6	77.7	77.9	77.9	77.9	77.9	78.0
≥ 4000	44.3	75.1	77.3	78.5	79.2	79.3	79.6	79.8	79.8	80.0	80.2	80.3	80.3	80.3	80.3	80.4
≥ 3500	46.2	78.0	80.3	81.6	82.5	82.6	82.8	83.1	83.1	83.3	83.5	83.6	83.6	83.6	83.6	83.7
≥ 3000	46.8	79.6	82.0	83.6	84.4	84.7	84.9	85.2	85.2	85.4	85.5	85.6	85.6	85.6	85.6	85.8
≥ 2500	47.7	81.9	84.4	86.3	87.3	87.6	87.8	88.1	88.1	88.3	88.4	88.6	88.7	88.7	88.7	88.8
≥ 2000	48.3	82.8	85.5	87.6	88.7	88.9	89.3	89.5	89.5	89.8	89.9	90.0	90.1	90.1	90.1	90.3
≥ 1800	48.5	83.1	86.0	88.2	89.4	89.8	90.1	90.4	90.4	90.6	90.8	90.9	91.0	91.0	91.0	91.1
≥ 1500	48.8	83.7	86.7	88.9	90.3	90.6	91.0	91.2	91.4	91.7	91.8	92.0	92.2	92.2	92.2	92.3
≥ 1200	48.9	84.3	87.3	89.5	91.1	91.6	92.0	92.2	92.3	92.7	92.8	92.9	93.2	93.2	93.2	93.3
≥ 1000	49.0	84.7	87.8	90.1	91.8	92.3	92.7	92.9	93.1	93.4	93.6	93.7	93.9	93.9	93.9	94.0
≥ 900	49.0	84.8	88.0	90.3	92.0	92.5	92.8	93.1	93.2	93.6	93.7	93.8	94.0	94.0	94.0	94.2
≥ 800	49.0	84.8	88.1	90.5	92.3	92.9	93.3	93.6	93.7	94.0	94.2	94.3	94.5	94.5	94.5	94.6
≥ 700	49.1	85.0	88.3	90.8	92.6	93.2	93.6	93.8	93.9	94.3	94.4	94.5	94.8	94.8	94.8	94.9
≥ 600	49.1	85.3	88.6	91.0	93.1	93.7	94.0	94.3	94.4	94.8	94.9	95.0	95.3	95.3	95.3	95.4
≥ 500	49.1	85.3	88.6	91.5	93.6	94.3	94.8	95.1	95.3	95.6	95.9	96.0	96.4	96.4	96.4	96.5
≥ 400	49.1	85.8	89.3	92.3	94.9	95.6	96.4	96.8	97.0	97.6	98.1	98.2	98.5	98.5	98.5	98.7
≥ 300	49.1	85.8	89.3	92.3	95.3	96.0	96.7	97.4	97.6	98.3	98.8	98.9	99.3	99.3	99.3	99.4
≥ 200	49.1	85.8	89.3	92.5	95.4	96.1	96.8	97.7	97.8	98.5	99.0	99.1	99.5	99.5	99.5	99.6
≥ 100	49.1	85.8	89.3	92.5	95.4	96.1	96.8	97.7	97.8	98.5	99.0	99.1	99.5	99.5	99.5	99.6
≥ 0	49.1	85.8	89.3	92.5	95.4	96.1	96.8	97.7	97.8	98.5	99.0	99.1	99.5	99.5	99.5	99.8

TOTAL NUMBER OF OBSERVATIONS 822

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

120330
STATION

PHILIPS-COLLINS/ALPENA MI
STATION NAME

73-01
YEAR

MAY
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

100-2300
ELEVATION (FT)

CEILING (FEET)	VISIBILITY (STATUTE MILES)															
	≥10	≥6	≥5	≥4	≥3	≥2½	≥2	≥1½	≥1¼	≥1	≥¾	≥½	≥¼	≥1/16	≥0	≥0
NO CEILING	32.3	55.7	56.8	57.9	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.9	58.9
≥ 20000	34.3	59.5	61.1	62.4	63.3	63.3	63.3	63.3	63.3	63.3	63.3	63.3	63.3	63.3	63.4	63.4
≥ 18000	34.3	59.5	61.1	62.4	63.3	63.3	63.3	63.3	63.3	63.3	63.3	63.3	63.3	63.3	63.4	63.4
≥ 16000	34.3	59.5	61.1	62.4	63.3	63.3	63.3	63.3	63.3	63.3	63.3	63.3	63.3	63.3	63.4	63.4
≥ 14000	34.3	59.5	61.1	62.4	63.3	63.3	63.3	63.3	63.3	63.3	63.3	63.3	63.3	63.3	63.4	63.4
≥ 12000	34.3	59.5	61.1	62.4	63.3	63.3	63.3	63.3	63.3	63.3	63.3	63.3	63.3	63.3	63.4	63.4
≥ 10000	35.0	61.0	63.5	64.9	65.7	65.7	65.7	65.7	65.7	65.7	65.7	65.7	65.7	65.7	65.9	65.9
≥ 9000	35.9	62.7	64.4	65.7	66.6	66.6	66.6	66.6	66.6	66.6	66.6	66.6	66.6	66.6	66.7	66.7
≥ 8000	37.5	65.0	67.1	68.4	69.5	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.8	69.8
≥ 7000	38.4	66.1	68.2	69.5	70.9	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.1	71.1
≥ 6000	39.2	67.9	70.0	71.7	72.8	72.9	72.9	72.9	72.9	72.9	72.9	72.9	72.9	72.9	73.1	73.1
≥ 5000	40.0	70.1	72.5	74.7	75.9	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.1	76.1
≥ 4500	41.4	73.1	75.9	78.1	79.4	79.6	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.2	80.2
≥ 4000	42.0	73.8	76.7	78.9	80.3	80.4	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	81.0	81.0
≥ 3500	43.8	76.5	79.4	81.6	83.1	83.2	84.0	84.0	84.0	84.2	84.2	84.2	84.2	84.2	84.3	84.3
≥ 3000	44.1	77.4	80.4	82.7	84.2	84.3	85.1	85.1	85.1	85.3	85.3	85.3	85.3	85.3	85.4	85.4
≥ 2500	44.6	78.9	82.0	84.3	86.0	86.2	87.0	87.0	87.0	87.3	87.3	87.3	87.3	87.3	87.4	87.4
≥ 2000	45.7	81.0	84.2	87.1	88.6	88.7	89.4	89.4	89.4	89.8	89.8	89.8	89.8	89.8	90.0	90.0
≥ 1800	46.0	81.6	85.1	88.1	89.6	89.7	90.6	90.6	90.6	90.8	90.8	90.8	90.8	90.8	90.9	90.9
≥ 1500	46.1	82.0	85.6	88.6	90.2	90.3	91.2	91.2	91.2	91.4	91.4	91.4	91.4	91.4	91.6	91.6
≥ 1200	46.4	82.3	85.8	89.0	90.6	90.7	91.6	91.6	91.6	91.8	91.8	91.8	91.8	91.8	91.9	91.9
≥ 1000	46.6	83.4	86.7	90.1	91.8	91.9	92.8	92.8	92.8	93.0	93.0	93.0	93.0	93.0	93.1	93.1
≥ 900	46.8	83.0	86.8	90.2	91.9	92.0	92.9	92.9	92.9	93.1	93.1	93.1	93.1	93.1	93.3	93.3
≥ 800	46.9	83.1	87.0	90.3	92.2	92.3	93.1	93.1	93.1	93.4	93.4	93.4	93.4	93.4	93.5	93.5
≥ 700	46.9	83.2	87.4	90.3	92.3	92.9	93.8	93.8	93.8	94.0	94.0	94.0	94.0	94.0	94.1	94.1
≥ 600	46.9	83.2	87.4	90.3	92.3	92.9	93.8	93.8	93.8	94.0	94.0	94.0	94.0	94.0	94.1	94.1
≥ 500	46.9	83.4	87.5	91.1	92.8	93.1	94.0	94.0	94.0	94.2	94.2	94.2	94.2	94.2	94.4	94.4
≥ 400	46.9	83.9	87.9	92.2	94.4	94.9	95.8	95.8	95.8	96.1	96.1	96.1	96.1	96.1	96.7	96.7
≥ 300	46.9	83.5	87.9	92.7	94.9	95.3	96.6	96.9	96.9	97.6	97.6	97.6	97.6	97.6	97.9	97.9
≥ 200	46.9	83.5	87.9	93.0	95.3	95.8	97.6	97.9	97.9	98.3	98.3	98.3	98.3	98.3	98.9	98.9
≥ 100	46.9	83.8	87.9	93.0	95.3	95.8	97.6	97.9	98.0	98.8	99.1	99.1	99.1	99.1	99.5	99.5
≥ 0	46.9	83.8	87.9	93.0	95.3	95.8	97.6	97.9	98.0	98.8	99.1	99.1	99.1	99.1	99.5	99.5

TOTAL NUMBER OF OBSERVATIONS

917

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

12639U

PHELPS-COLLINS/ALPENA MI

73-81

MAY

STATION

STATION NAME

YEAR

MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

ALL

HOURLY

CEILING (FEET)	VISIBILITY (STATUTE MILES)															
	≥10	≥6	≥5	≥4	≥3	≥2½	≥2	≥1½	≥1¼	≥1	≥¾	≥½	≥¼	≥1/8	≥0	≥0
NO CEILING	51.7	51.5	52.5	53.6	54.6	54.7	54.8	55.0	55.0	55.1	55.1	55.1	55.1	55.1	55.1	55.2
≥ 20000	55.9	55.6	56.9	58.2	59.2	59.4	59.5	59.7	59.7	59.7	59.8	59.8	59.8	59.8	59.8	59.9
≥ 18000	33.9	55.6	56.9	58.2	59.3	59.4	59.5	59.7	59.7	59.8	59.8	59.8	59.8	59.8	59.9	59.9
≥ 16000	33.9	55.6	56.9	58.2	59.3	59.4	59.5	59.7	59.7	59.8	59.8	59.8	59.8	59.8	59.9	59.9
≥ 14000	33.9	55.7	57.0	58.3	59.4	59.5	59.6	59.8	59.8	59.9	59.9	59.9	59.9	59.9	60.0	60.0
≥ 12000	34.2	56.5	57.9	59.3	60.4	60.5	60.6	60.8	60.8	60.9	60.9	60.9	60.9	60.9	61.0	61.0
≥ 10000	35.0	58.7	60.2	61.5	62.7	62.8	63.0	63.2	63.2	63.3	63.3	63.3	63.3	63.3	63.4	63.4
≥ 9000	35.3	59.0	60.4	61.8	63.0	63.1	63.3	63.4	63.4	63.5	63.5	63.5	63.5	63.6	63.6	63.6
≥ 8000	36.5	61.2	62.7	64.2	65.5	65.6	65.8	66.0	66.0	66.1	66.1	66.1	66.1	66.1	66.2	66.2
≥ 7000	37.1	62.4	64.0	65.6	66.8	67.0	67.2	67.4	67.4	67.5	67.5	67.5	67.5	67.5	67.6	67.6
≥ 6000	37.8	63.7	65.4	67.0	68.4	68.5	68.8	68.9	68.9	69.0	69.1	69.1	69.1	69.1	69.1	69.2
≥ 5000	39.1	66.0	67.9	69.8	71.2	71.4	71.7	71.9	71.9	72.0	72.1	72.1	72.1	72.1	72.2	72.2
≥ 4500	41.5	69.8	71.7	73.6	75.0	75.2	75.6	75.8	75.8	75.9	76.0	76.0	76.0	76.0	76.1	76.1
≥ 4000	41.9	70.6	72.6	74.6	76.2	76.5	76.9	77.1	77.1	77.2	77.3	77.3	77.3	77.3	77.4	77.4
≥ 3500	43.0	72.6	74.9	76.9	78.5	78.7	79.1	79.4	79.4	79.6	79.6	79.6	79.6	79.6	79.7	79.7
≥ 3000	43.8	74.5	76.9	79.1	80.7	80.9	81.4	81.7	81.7	81.8	81.9	81.9	81.9	81.9	82.0	82.0
≥ 2500	45.0	77.0	79.5	81.8	83.4	83.7	84.2	84.5	84.5	84.7	84.7	84.7	84.8	84.8	84.8	84.9
≥ 2000	45.9	79.4	81.6	84.0	85.7	85.9	86.5	86.8	86.8	87.0	87.0	87.0	87.1	87.1	87.2	87.2
≥ 1800	46.2	79.6	82.2	84.7	86.4	86.7	87.3	87.6	87.6	87.8	87.8	87.8	87.9	87.9	87.9	88.0
≥ 1500	46.7	80.9	83.7	86.2	88.0	88.3	89.0	89.3	89.3	89.5	89.5	89.5	89.6	89.6	89.7	89.7
≥ 1200	47.1	81.8	84.5	87.1	88.9	89.2	90.0	90.3	90.3	90.5	90.5	90.5	90.6	90.6	90.7	90.7
≥ 1000	47.5	82.5	85.4	88.1	90.0	90.4	91.1	91.5	91.5	91.7	91.7	91.7	91.8	91.8	91.9	91.9
≥ 900	47.5	82.7	85.7	88.4	90.3	90.7	91.4	91.8	91.8	92.0	92.0	92.1	92.1	92.1	92.2	92.2
≥ 800	47.5	83.0	86.0	88.8	90.6	91.2	92.0	92.3	92.4	92.6	92.6	92.6	92.6	92.7	92.8	92.8
≥ 700	47.7	83.3	86.4	89.3	91.4	91.9	92.7	93.1	93.2	93.4	93.4	93.4	93.5	93.5	93.6	93.6
≥ 600	47.7	83.5	86.6	89.6	92.0	92.4	93.3	93.7	93.8	94.0	94.1	94.1	94.2	94.2	94.3	94.3
≥ 500	47.7	83.7	87.1	90.2	92.6	93.1	94.0	94.6	94.6	94.9	95.0	95.0	95.1	95.1	95.2	95.3
≥ 400	47.7	83.9	87.4	90.9	93.6	94.2	95.3	96.0	96.1	96.6	96.8	96.8	96.9	96.9	97.0	97.0
≥ 300	47.7	83.9	87.4	91.1	93.9	94.7	95.9	96.7	96.8	97.5	97.8	97.9	98.0	98.0	98.1	98.1
≥ 200	47.7	83.9	87.5	91.2	94.2	94.9	96.3	97.2	97.3	98.1	98.6	98.8	98.8	98.8	99.0	99.1
≥ 100	47.7	83.9	87.5	91.3	94.2	95.0	96.3	97.3	97.5	98.3	98.9	99.0	99.2	99.3	99.6	99.7
≥ 0	47.7	83.9	87.5	91.3	94.2	95.0	96.3	97.3	97.5	98.3	98.9	99.0	99.2	99.3	99.8	100.0

TOTAL NUMBER OF OBSERVATIONS 6530

USAF ETAC FORM 8-14-8 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

726390

PHELPS-COLLINS/ALPENA MI

73-81

JUN

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0000-0200

CEILING (FEET)	VISIBILITY (STATUTE MILES)															
	≥10	≥6	≥5	≥4	≥3	≥2½	≥2	≥1½	≥1¼	≥1	≥¾	≥½	≥¼	≥1/16	≥0	≥0
NO CEILING	54.3	55.0	56.9	59.9	60.9	61.0	61.8	62.2	62.2	62.2	62.2	62.2	62.3	62.3	62.3	62.3
≥ 20000	54.7	57.5	60.9	62.2	63.6	63.7	64.0	65.2	65.2	65.2	65.2	65.2	65.3	65.3	65.4	65.4
IN 18000	34.7	57.6	61.0	62.3	63.7	63.8	64.9	65.3	65.3	65.3	65.3	65.3	65.4	65.4	65.6	65.6
IN 16000	34.7	57.6	61.0	62.3	63.7	63.8	64.9	65.3	65.3	65.3	65.3	65.3	65.4	65.4	65.6	65.6
IN 14000	34.7	57.7	61.1	62.4	63.8	63.9	65.1	65.4	65.4	65.4	65.4	65.4	65.6	65.6	65.7	65.7
IN 12000	35.3	58.4	61.8	63.2	64.6	64.7	65.8	66.2	66.2	66.2	66.2	66.2	66.3	66.3	66.5	66.5
IN 10000	36.5	60.3	63.8	65.2	66.6	66.7	67.8	68.2	68.2	68.2	68.2	68.2	68.4	68.4	68.5	68.5
IN 9000	36.6	60.4	64.3	65.7	67.1	67.2	68.4	68.7	68.7	68.7	68.7	68.7	68.9	68.9	69.0	69.0
IN 8000	37.1	62.4	66.2	67.8	69.2	69.4	70.5	70.9	70.9	70.9	70.9	70.9	71.0	71.0	71.1	71.2
IN 7000	37.5	64.1	68.1	69.7	71.3	71.4	72.5	72.9	72.9	72.9	72.9	72.9	73.0	73.0	73.2	73.2
IN 6000	38.5	66.3	70.4	72.5	74.1	74.2	75.3	75.7	75.7	75.7	75.7	75.7	75.8	75.8	75.9	76.0
IN 5000	39.1	69.4	73.5	75.8	77.7	77.7	79.0	79.4	79.4	79.4	79.4	79.4	79.5	79.5	79.6	79.6
IN 4500	41.6	71.0	76.2	78.6	80.6	80.6	81.9	82.3	82.3	82.3	82.3	82.3	82.4	82.4	82.5	82.5
IN 4000	41.6	71.9	76.3	79.0	81.1	81.3	82.5	82.9	82.9	82.9	82.9	82.9	83.0	83.0	83.2	83.2
IN 3500	42.0	74.6	79.4	82.0	84.2	84.3	85.8	86.2	86.2	86.2	86.2	86.2	86.3	86.3	86.5	86.5
IN 3000	42.2	75.3	80.3	83.2	85.4	85.6	87.2	87.6	87.6	87.6	87.6	87.6	87.7	87.7	87.8	87.8
IN 2500	42.3	75.8	80.8	83.7	85.9	86.3	87.7	88.1	88.1	88.1	88.1	88.1	88.2	88.2	88.4	88.4
IN 2000	42.5	77.1	82.3	85.2	87.5	87.6	89.2	89.6	89.6	89.6	89.6	89.6	89.7	89.7	89.9	89.9
IN 1800	42.9	77.6	82.8	85.7	88.0	88.1	89.7	90.1	90.1	90.1	90.1	90.1	90.3	90.3	90.4	90.4
IN 1500	43.0	79.0	84.3	87.2	89.5	89.6	91.3	91.6	91.6	91.6	91.6	91.6	91.9	91.9	92.0	92.0
IN 1200	43.2	79.5	84.8	88.0	90.3	90.4	92.0	92.4	92.4	92.4	92.4	92.5	92.5	92.7	92.7	92.8
IN 1000	43.2	80.0	85.3	88.6	90.9	91.0	92.7	93.0	93.0	93.0	93.0	93.2	93.2	93.3	93.5	93.5
IN 900	43.4	80.4	85.7	89.1	91.3	91.4	93.0	93.4	93.4	93.4	93.4	93.5	93.5	93.7	93.8	93.8
IN 800	43.4	80.8	86.1	89.4	91.6	91.7	93.3	93.7	93.7	93.7	93.7	93.9	94.1	94.2	94.3	94.3
IN 700	43.4	81.0	86.6	90.0	92.4	92.5	94.2	94.6	94.6	94.6	94.6	94.7	94.7	94.8	94.9	94.9
IN 600	43.4	81.0	86.8	90.4	92.8	92.9	94.6	95.0	95.0	95.0	95.0	95.1	95.1	95.2	95.3	95.3
IN 500	43.5	81.3	87.2	90.9	93.3	93.4	95.1	95.4	95.4	95.4	95.4	95.6	95.6	95.7	95.8	95.8
IN 400	43.5	81.3	87.7	91.4	93.8	93.9	95.6	95.9	95.9	95.9	95.9	96.2	96.2	96.3	96.5	96.5
IN 300	43.9	81.6	88.0	91.8	94.1	94.2	96.0	96.3	96.3	96.3	96.3	96.7	96.7	96.8	97.0	97.0
IN 200	43.9	81.6	88.0	91.8	94.1	94.2	96.0	96.3	96.3	96.3	96.3	96.7	96.7	96.8	97.0	97.0
IN 100	43.9	81.6	88.0	91.8	94.1	94.2	96.0	96.3	96.3	96.3	96.3	96.7	96.7	96.8	97.0	97.0
IN 0	43.9	81.6	88.0	91.8	94.1	94.2	96.0	96.3	96.3	96.3	96.3	96.7	96.7	96.8	97.0	97.0

TOTAL NUMBER OF OBSERVATIONS 790

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

726390
STATION

PHELPS-COLLINS/ALPENA MI
WEATHER NAME

73-81
YEAR

JUN
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0300-0500
HOURS (LST)

CEILING (FEET)	VISIBILITY (STATUTE MILES)															
	≥10	≥8	≥5	≥4	≥3	≥2½	≥2	≥1½	≥1¼	≥1	≥¾	≥½	≥¼	≥1/8	≥1/16	≥0
NO CEILING	29.6	48.3	50.2	50.9	52.2	52.3	53.2	54.0	54.0	54.2	54.6	54.6	54.7	54.7	55.2	56.2
≥ 20000	30.8	51.2	53.2	54.7	56.0	56.1	57.1	58.1	58.2	58.5	58.9	58.9	59.0	59.0	59.5	59.6
IV 18000	30.8	51.2	53.2	54.7	56.0	56.1	57.1	58.1	58.2	58.5	58.9	58.9	59.0	59.0	59.5	59.6
IV 16000	30.8	51.2	53.2	54.7	56.0	56.1	57.1	58.1	58.2	58.5	58.9	58.9	59.0	59.0	59.5	59.6
IV 14000	30.9	51.6	53.6	55.1	56.4	56.5	57.5	58.5	58.6	58.9	59.2	59.2	59.4	59.4	59.9	60.0
IV 12000	31.7	52.3	54.3	56.0	57.2	57.4	58.4	59.4	59.5	59.7	60.1	60.1	60.3	60.3	60.8	60.9
IV 10000	32.5	54.0	56.0	57.7	59.0	59.1	60.1	61.1	61.3	61.5	61.9	61.9	62.0	62.0	62.5	62.6
IV 9000	32.5	54.5	56.5	58.4	59.6	59.7	60.8	61.8	61.9	62.1	62.5	62.5	62.6	62.6	63.1	63.3
IV 8000	33.7	57.5	60.0	61.9	63.1	63.4	64.4	65.4	65.5	65.8	66.2	66.2	66.3	66.3	66.8	66.9
IV 7000	34.3	59.5	62.0	63.9	65.2	65.4	66.4	67.4	67.5	67.8	68.2	68.2	68.3	68.3	68.8	68.9
IV 6000	34.7	60.8	63.5	65.9	67.4	67.7	68.8	69.8	69.9	70.2	70.6	70.6	70.7	70.7	71.2	71.3
IV 5000	35.2	63.3	66.3	69.4	71.1	71.3	72.6	73.6	73.7	74.1	74.5	74.5	74.6	74.6	75.2	75.3
IV 4500	36.1	66.5	69.7	73.2	74.8	75.1	76.4	77.4	77.5	77.9	78.2	78.2	78.4	78.4	79.0	79.1
IV 4000	36.2	66.4	70.1	73.8	75.5	75.7	77.0	78.0	78.1	78.6	79.0	79.0	79.1	79.1	79.7	79.9
IV 3500	37.0	69.2	72.3	76.1	77.7	78.0	79.2	80.3	80.4	80.9	81.3	81.3	81.4	81.4	82.0	82.1
IV 3000	37.5	70.9	74.3	78.2	80.0	80.3	81.6	82.6	82.8	83.3	83.6	83.6	83.8	83.8	84.4	84.5
IV 2500	37.6	71.4	74.8	78.9	80.8	81.0	82.6	83.6	83.8	84.3	84.7	84.7	84.8	84.8	85.4	85.5
IV 2000	38.0	72.7	76.2	80.3	82.1	82.4	84.0	85.0	85.2	85.8	86.2	86.2	86.3	86.3	86.9	87.0
IV 1800	38.0	73.1	76.6	80.6	82.5	82.8	84.4	85.4	85.5	86.2	86.5	86.5	86.7	86.7	87.3	87.4
IV 1500	38.7	74.5	78.0	82.0	83.9	84.2	85.8	86.8	86.9	87.5	87.9	87.9	88.1	88.1	88.7	88.8
IV 1200	39.2	75.6	79.1	83.1	85.0	85.3	86.9	87.9	88.1	88.7	89.1	89.1	89.2	89.2	89.8	89.9
IV 1000	39.2	76.5	80.0	84.0	85.9	86.2	88.1	89.1	89.2	89.8	90.2	90.2	90.4	90.4	91.1	91.2
IV 900	39.5	77.0	80.6	84.7	86.5	86.8	88.7	89.7	89.8	90.4	90.8	90.8	91.1	91.1	91.7	91.8
IV 800	39.7	77.5	81.1	85.3	87.3	87.5	89.4	90.4	90.6	91.2	91.6	91.6	91.8	91.8	92.5	92.6
IV 700	40.1	78.2	81.4	85.8	87.8	88.0	90.4	91.4	91.6	92.2	92.6	92.6	92.8	92.8	93.5	93.6
IV 600	40.3	78.7	82.4	86.8	88.9	89.2	91.1	92.1	92.2	92.8	93.2	93.2	93.5	93.5	94.1	94.2
IV 500	40.5	79.0	82.8	87.3	89.6	89.7	91.6	92.6	92.7	93.3	93.7	93.7	94.0	94.0	94.6	94.7
IV 400	40.5	79.0	82.9	87.4	89.7	89.9	91.8	92.8	93.0	93.6	94.0	94.0	94.2	94.2	94.8	95.0
IV 300	40.5	79.0	83.0	87.7	90.1	90.4	92.5	93.7	93.8	94.5	95.0	95.0	95.2	95.2	95.8	96.0
IV 200	40.5	79.0	83.0	87.7	90.1	90.4	92.7	94.2	94.3	95.0	95.7	95.8	96.2	96.2	96.9	97.0
IV 100	40.5	79.0	83.0	87.8	90.2	90.5	92.8	94.3	94.5	95.3	96.1	96.2	97.0	97.0	98.2	98.7
IV 0	40.6	79.1	83.1	87.9	90.3	90.7	93.0	94.5	94.6	95.5	96.2	96.4	97.1	97.2	98.5	99.0

TOTAL NUMBER OF OBSERVATIONS 795

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAL

CEILING VERSUS VISIBILITY

726390
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

JUN
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0600-0800
HOURS

CEILING (FEET)	VISIBILITY (STATUTE MILES)															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2½	≥ 2	≥ 1½	≥ 1¼	≥ 1	≥ ¾	≥ ½	≥ ¼	≥ 1/8	≥ 1/16	≥ 0
NO CEILING	28.4	47.6	49.2	50.1	51.8	52.2	53.0	53.5	53.5	54.1	54.2	54.2	54.2	54.2	54.2	54.3
≥ 20000	29.5	50.9	52.5	53.7	55.8	56.2	57.1	57.6	57.6	58.1	58.2	58.2	58.2	58.2	58.2	58.5
≥ 18000	29.5	50.9	52.5	53.7	55.8	56.2	57.1	57.6	57.6	58.1	58.2	58.2	58.2	58.2	58.2	58.5
≥ 16000	29.5	50.9	52.5	53.7	55.8	56.2	57.1	57.6	57.6	58.1	58.2	58.2	58.2	58.2	58.2	58.5
≥ 14000	29.6	51.1	52.8	53.9	56.1	56.5	57.3	57.8	57.8	58.4	58.5	58.5	58.5	58.5	58.5	58.7
≥ 12000	30.0	51.5	53.2	54.3	56.5	56.8	57.7	58.2	58.2	58.7	58.9	58.9	58.9	58.9	58.9	59.1
≥ 10000	30.8	53.4	55.1	56.5	58.6	59.0	60.1	60.8	60.8	61.3	61.4	61.4	61.4	61.4	61.4	61.6
≥ 9000	31.0	54.6	56.2	57.7	59.9	60.3	61.4	62.0	62.0	62.5	62.7	62.7	62.7	62.7	62.7	62.9
≥ 8000	32.4	56.8	58.5	60.3	62.7	63.2	64.3	64.9	64.9	65.4	65.7	65.7	65.7	65.7	65.7	65.9
≥ 7000	33.5	59.1	60.8	62.5	64.9	65.4	66.7	67.5	67.5	68.0	68.2	68.2	68.2	68.2	68.2	68.5
≥ 6000	34.1	60.4	62.2	64.1	66.5	67.0	68.2	69.0	69.0	69.5	69.7	69.7	69.7	69.7	69.7	70.0
≥ 5000	34.6	61.9	63.7	65.7	68.1	68.6	70.0	70.8	70.8	71.3	71.5	71.5	71.5	71.5	71.5	71.8
≥ 4500	35.3	63.5	65.4	67.5	69.9	70.4	71.8	72.7	72.7	73.2	73.4	73.4	73.4	73.4	73.4	73.7
≥ 4000	35.8	65.1	67.0	69.1	71.5	72.0	73.4	74.3	74.3	74.8	75.1	75.1	75.1	75.1	75.1	75.3
≥ 3500	36.3	67.2	69.2	71.3	74.2	74.7	76.3	77.3	77.3	77.8	78.1	78.1	78.1	78.1	78.1	78.4
≥ 3000	36.5	68.5	70.5	72.8	75.4	75.9	77.6	78.6	78.6	79.1	79.4	79.4	79.4	79.4	79.4	79.6
≥ 2500	37.0	69.7	71.8	74.1	77.1	77.7	79.6	80.6	80.6	81.1	81.6	81.6	81.6	81.6	81.6	81.9
≥ 2000	37.5	71.1	73.3	75.7	78.7	79.5	81.4	82.4	82.4	82.9	83.4	83.4	83.4	83.4	83.4	83.7
≥ 1800	38.0	71.8	74.1	76.5	79.5	80.3	82.2	83.2	83.2	83.7	84.2	84.2	84.2	84.2	84.2	84.4
≥ 1500	38.4	73.0	75.6	78.1	81.1	82.0	83.9	84.9	84.9	85.4	85.9	85.9	85.9	85.9	85.9	86.2
≥ 1200	38.8	73.8	76.5	79.0	82.0	83.2	85.1	86.1	86.1	86.6	87.1	87.1	87.1	87.1	87.1	87.6
≥ 1000	39.1	75.6	78.4	80.9	84.2	85.2	87.3	88.4	88.4	88.9	89.4	89.4	89.4	89.4	89.4	89.9
≥ 900	39.2	76.2	79.2	81.8	85.1	86.1	88.2	89.2	89.2	89.7	90.3	90.3	90.3	90.3	90.3	90.8
≥ 800	39.7	77.2	80.3	82.8	86.3	87.3	89.5	90.5	90.5	91.0	91.5	91.5	91.5	91.5	91.5	92.0
≥ 700	39.7	77.8	80.6	83.4	87.0	88.0	90.1	91.3	91.3	91.8	92.3	92.3	92.3	92.3	92.3	92.9
≥ 600	39.7	78.2	81.3	84.3	88.0	89.0	91.1	92.4	92.4	92.9	93.4	93.4	93.4	93.4	93.4	94.1
≥ 500	39.7	78.4	81.5	84.7	88.5	89.7	92.2	93.7	93.7	94.2	94.7	94.7	94.7	94.7	94.7	95.4
≥ 400	39.7	78.5	81.8	85.3	89.2	90.5	93.2	94.8	94.8	95.3	95.8	95.8	95.8	95.8	95.8	96.2
≥ 300	39.7	78.6	82.0	85.7	89.7	91.1	93.9	95.8	95.8	96.3	96.8	96.8	96.8	96.8	96.8	97.2
≥ 200	39.7	78.6	82.0	85.7	89.7	91.1	93.9	95.8	95.8	96.3	96.8	96.8	96.8	96.8	96.8	97.2
≥ 100	39.7	78.6	82.0	85.7	89.7	91.1	93.9	95.8	95.8	96.3	96.8	96.8	96.8	96.8	96.8	97.2
≥ 0	39.7	78.6	82.0	85.7	89.7	91.1	93.9	95.8	95.8	96.3	96.8	96.8	96.8	96.8	96.8	97.2

TOTAL NUMBER OF OBSERVATIONS 790

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

126390
STATION

PHILIPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

JUN
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0900-1100
HOURS (LST)

CEILING (FEET)	VISIBILITY (STATUTE MILES)															
	≥10	≥6	≥5	≥4	≥3	≥2½	≥2	≥1½	≥1¼	≥1	≥¾	≥½	≥¼	≥1/8	≥.	≥0
NO CEILING	31.9	50.7	51.3	52.0	52.5	52.5	52.6	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7
≥ 20000	33.0	53.7	54.4	55.0	55.5	55.6	55.7	55.9	55.9	55.9	55.9	55.9	55.9	55.9	55.9	55.9
≥ 18000	33.0	53.7	54.4	55.0	55.5	55.6	55.7	55.9	55.9	55.9	55.9	55.9	55.9	55.9	55.9	55.9
≥ 16000	33.0	53.7	54.4	55.0	55.5	55.6	55.7	55.9	55.9	55.9	55.9	55.9	55.9	55.9	55.9	55.9
≥ 14000	33.3	54.2	54.9	55.5	56.0	56.1	56.2	56.4	56.4	56.4	56.4	56.4	56.4	56.4	56.4	56.4
≥ 12000	33.9	55.1	55.7	56.5	57.0	57.1	57.3	57.4	57.4	57.4	57.4	57.4	57.4	57.4	57.4	57.4
≥ 10000	34.6	57.8	58.5	59.5	60.0	60.2	60.3	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4
≥ 9000	34.7	58.4	59.1	60.2	60.7	60.8	60.9	61.0	61.0	61.0	61.0	61.0	61.0	61.0	61.0	61.0
≥ 8000	36.7	61.7	62.7	64.2	64.9	65.1	65.2	65.3	65.3	65.3	65.3	65.3	65.3	65.3	65.3	65.3
≥ 7000	37.1	63.4	64.3	66.0	66.7	66.8	67.0	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1
≥ 6000	37.8	64.4	65.7	67.5	68.2	68.3	68.5	68.6	68.6	68.6	68.6	68.6	68.6	68.6	68.6	68.6
≥ 5000	38.5	65.8	67.2	69.0	69.7	69.9	70.0	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.1
≥ 4500	39.0	67.1	68.7	70.7	71.5	71.6	71.8	71.9	71.9	71.9	71.9	71.9	71.9	71.9	71.9	71.9
≥ 4000	39.8	68.7	70.4	72.4	73.1	73.3	73.4	73.5	73.5	73.5	73.5	73.5	73.5	73.5	73.5	73.5
≥ 3500	41.1	71.4	73.0	75.0	75.8	75.9	76.0	76.2	76.2	76.2	76.2	76.2	76.2	76.2	76.2	76.2
≥ 3000	41.2	72.0	73.8	76.0	76.9	77.0	77.2	77.4	77.4	77.4	77.4	77.4	77.4	77.4	77.4	77.4
≥ 2500	42.5	74.3	76.0	78.4	79.6	79.7	79.9	80.2	80.2	80.2	80.2	80.2	80.2	80.2	80.2	80.2
≥ 2000	43.8	76.8	78.7	81.3	82.5	82.6	82.8	83.1	83.1	83.1	83.1	83.1	83.1	83.1	83.1	83.1
≥ 1800	44.1	77.6	79.7	82.3	83.5	83.6	83.9	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1
≥ 1500	45.3	81.2	83.6	86.3	87.4	87.5	87.8	88.0	88.0	88.0	88.0	88.0	88.0	88.0	88.0	88.0
≥ 1200	46.2	83.7	86.1	88.8	89.9	90.0	90.4	90.7	90.7	90.7	90.7	90.7	90.7	90.7	90.7	90.7
≥ 1000	46.3	85.1	87.6	90.4	91.6	91.7	92.1	92.3	92.3	92.3	92.3	92.3	92.3	92.3	92.3	92.3
≥ 900	46.3	85.5	88.0	90.9	92.1	92.2	92.6	92.8	92.8	92.8	92.8	92.8	92.8	92.8	92.8	92.8
≥ 800	46.5	86.3	88.9	92.3	93.4	93.6	93.9	94.2	94.2	94.2	94.2	94.2	94.2	94.2	94.2	94.2
≥ 700	46.7	86.6	89.5	92.9	94.3	94.5	94.8	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1
≥ 600	46.7	87.0	90.0	93.4	95.0	95.2	95.6	95.8	95.8	96.0	96.0	96.0	96.0	96.0	96.0	96.0
≥ 500	46.7	87.4	90.7	94.1	95.7	96.3	96.8	97.1	97.1	97.2	97.2	97.2	97.2	97.2	97.2	97.2
≥ 400	46.7	87.6	91.0	94.6	96.5	97.1	98.2	98.6	98.6	98.7	98.7	98.7	98.7	98.7	98.7	98.7
≥ 300	46.7	87.6	91.0	94.7	96.6	97.2	98.6	99.0	99.0	99.2	99.4	99.4	99.5	99.5	99.5	99.5
≥ 200	46.7	87.6	91.0	94.7	96.6	97.2	98.6	99.1	99.1	99.4	99.5	99.5	99.7	99.7	99.7	99.7
≥ 100	46.7	87.6	91.0	94.7	96.6	97.2	98.6	99.1	99.1	99.4	99.5	99.5	99.7	99.7	100.0	100.0
≥ 0	46.7	87.6	91.0	94.7	96.6	97.2	98.6	99.1	99.1	99.4	99.5	99.5	99.7	99.7	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 793

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

126390
STATION

PHILIPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

JUN
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1400-1400
HOURS

CEILING (FEET)	VISIBILITY (STATUTE MILES)															
	≥10	≥6	≥5	≥4	≥3	≥2½	≥2	≥1½	≥1¼	≥1	≥¾	≥½	≥¼	≥1/8	≥0	≥0
NO CEILING	31.5	49.1	49.2	49.4	49.4	50.2	50.2	50.2	50.2	50.2	50.2	50.2	50.2	50.2	50.2	50.2
≥ 20000	35.4	56.7	56.9	57.3	57.3	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0
≥ 18000	35.4	56.7	56.9	57.3	57.3	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0
≥ 16000	35.4	56.7	56.9	57.3	57.3	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0
≥ 14000	35.4	56.7	56.9	57.3	57.3	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0
≥ 12000	35.4	56.7	56.9	57.3	57.3	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0
≥ 10000	37.6	61.5	61.7	62.2	62.4	63.2	63.2	63.2	63.2	63.2	63.2	63.2	63.2	63.2	63.2	63.2
≥ 9000	37.6	62.0	62.2	62.7	62.9	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7
≥ 8000	38.6	63.9	64.2	64.7	65.2	66.0	66.0	66.0	66.0	66.0	66.0	66.0	66.0	66.0	66.0	66.0
≥ 7000	39.6	65.3	65.6	66.1	66.6	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3
≥ 6000	40.1	66.3	66.6	67.2	67.7	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.5
≥ 5000	40.7	68.0	68.3	69.0	69.5	70.2	70.2	70.2	70.2	70.2	70.2	70.2	70.2	70.2	70.2	70.2
≥ 4500	41.6	69.9	70.4	71.0	71.5	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3
≥ 4000	43.1	73.5	74.1	74.9	75.5	76.3	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4
≥ 3500	44.6	76.0	76.9	77.7	78.3	79.1	79.2	79.2	79.2	79.2	79.2	79.2	79.2	79.2	79.2	79.2
≥ 3000	46.3	78.7	79.6	80.5	81.1	81.8	82.0	82.0	82.0	82.0	82.0	82.0	82.0	82.0	82.0	82.0
≥ 2500	47.4	82.0	83.2	84.5	85.1	85.9	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0
≥ 2000	49.1	85.5	86.8	88.4	89.0	89.8	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9
≥ 1800	49.4	86.3	87.5	89.2	89.8	90.5	90.7	90.7	90.7	90.7	90.7	90.7	90.7	90.7	90.7	90.7
≥ 1500	50.3	89.3	90.7	92.3	92.9	93.7	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9
≥ 1200	50.4	89.8	91.2	92.9	93.7	94.5	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7
≥ 1000	50.7	90.4	91.9	93.8	94.6	95.3	95.7	95.7	95.7	95.7	95.7	95.7	95.7	95.7	95.7	95.7
≥ 900	50.7	90.4	92.1	93.9	94.7	95.5	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8
≥ 800	50.7	90.5	92.3	94.2	95.0	95.8	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2
≥ 700	50.8	90.7	92.6	94.6	95.3	96.2	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6
≥ 600	50.8	90.9	92.8	94.8	95.7	96.7	97.1	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2
≥ 500	50.8	91.2	93.1	95.1	96.2	97.2	97.6	97.9	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0
≥ 400	50.8	91.3	93.3	95.3	96.5	97.6	98.2	98.6	98.7	98.9	99.0	99.0	99.0	99.0	99.0	99.0
≥ 300	50.8	91.3	93.3	95.5	96.6	98.0	98.4	98.7	99.0	99.1	99.2	99.2	99.2	99.2	99.2	99.2
≥ 200	50.8	91.3	93.3	95.5	96.6	98.1	98.5	98.9	99.2	99.4	99.5	99.5	99.5	99.5	99.5	99.5
≥ 100	50.8	91.3	93.3	95.5	96.6	98.1	98.5	98.9	99.2	99.4	99.5	99.5	99.5	99.5	99.6	99.7
≥ 0	50.8	91.3	93.3	95.5	96.6	98.1	98.5	98.9	99.2	99.4	99.5	99.5	99.5	99.5	99.6	100.0

TOTAL NUMBER OF OBSERVATIONS 793

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

12639U
WATSON

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

JUN
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1500-1700
HOURS LT

CEILING (FEET)	VISIBILITY (STATUTE MILES)															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2½	≥ 2	≥ 1½	≥ 1¼	≥ 1	≥ ¾	≥ ½	≥ ¼	≥ 1/8	≥ 1/16	≥ 0
NO CEILING	32.4	51.0	51.3	52.4	53.2	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.4
≥ 20000	35.8	57.3	57.8	59.1	59.9	60.1	60.1	60.1	60.1	60.1	60.1	60.1	60.1	60.1	60.1	60.1
IV 18000	35.8	57.3	57.8	59.1	59.9	60.1	60.1	60.1	60.1	60.1	60.1	60.1	60.1	60.1	60.1	60.1
IV 16000	35.8	57.3	57.8	59.1	59.9	60.1	60.1	60.1	60.1	60.1	60.1	60.1	60.1	60.1	60.1	60.1
IV 14000	36.1	58.1	58.6	59.9	60.6	60.9	60.9	60.9	60.9	60.9	60.9	60.9	60.9	60.9	60.9	60.9
IV 12000	36.6	58.7	59.2	60.5	61.3	61.5	61.5	61.5	61.5	61.5	61.5	61.5	61.5	61.5	61.5	61.5
IV 10000	37.6	60.3	60.8	62.2	63.0	63.3	63.3	63.3	63.3	63.3	63.3	63.3	63.3	63.3	63.3	63.3
IV 9000	37.7	60.9	61.4	62.8	63.7	63.9	63.9	63.9	63.9	63.9	63.9	63.9	63.9	63.9	63.9	63.9
IV 8000	38.2	64.2	64.7	66.1	67.0	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2
IV 7000	39.6	66.2	66.7	68.2	69.1	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4
IV 6000	40.4	68.2	68.7	70.4	71.4	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6
IV 5000	42.5	71.3	71.9	74.1	75.1	75.3	75.3	75.3	75.3	75.3	75.3	75.3	75.3	75.3	75.3	75.3
IV 4500	44.9	75.9	76.6	79.0	80.3	80.6	80.6	80.6	80.6	80.6	80.6	80.6	80.6	80.6	80.6	80.6
IV 4000	45.4	77.7	78.4	80.9	82.2	82.5	82.7	82.7	82.7	82.7	82.7	82.7	82.7	82.7	82.7	82.7
IV 3500	47.1	80.4	81.1	83.7	84.9	85.3	85.4	85.6	85.6	85.6	85.6	85.6	85.6	85.6	85.6	85.6
IV 3000	48.4	83.3	84.1	86.6	87.8	88.2	88.4	88.5	88.5	88.5	88.5	88.5	88.5	88.5	88.5	88.5
IV 2500	49.4	84.9	85.7	88.5	90.0	90.4	90.5	90.6	90.6	90.6	90.6	90.6	90.6	90.6	90.6	90.6
IV 2000	49.9	86.8	87.6	90.5	92.0	92.4	92.5	92.7	92.7	92.7	92.8	92.8	92.8	92.8	92.8	92.8
IV 1800	50.1	87.2	88.0	91.0	92.7	93.0	93.2	93.3	93.3	93.3	93.4	93.4	93.4	93.4	93.4	93.4
IV 1500	50.5	88.1	89.2	92.5	94.2	94.8	94.9	95.1	95.1	95.2	95.2	95.2	95.2	95.2	95.2	95.2
IV 1200	50.8	88.9	90.0	93.3	95.1	95.7	95.9	96.1	96.1	96.2	96.2	96.2	96.2	96.2	96.2	96.2
IV 1000	50.8	89.6	90.8	94.2	95.9	96.6	96.8	97.0	97.0	97.1	97.1	97.1	97.1	97.1	97.1	97.1
IV 900	50.8	89.7	90.9	94.3	96.3	97.0	97.2	97.3	97.3	97.5	97.5	97.5	97.5	97.5	97.5	97.5
IV 800	50.8	89.9	91.1	94.6	96.6	97.2	97.5	97.6	97.6	97.7	97.7	97.7	97.7	97.7	97.7	97.7
IV 700	50.8	90.0	91.3	94.7	96.7	97.3	97.6	97.7	97.7	97.8	97.8	97.8	97.8	97.8	97.8	97.8
IV 600	50.8	90.1	91.4	94.8	96.8	97.5	97.8	98.0	98.0	98.1	98.1	98.1	98.1	98.1	98.1	98.1
IV 500	50.8	90.5	91.9	95.3	97.3	98.0	98.4	98.5	98.5	98.6	98.6	98.6	98.6	98.6	98.6	98.6
IV 400	50.8	90.5	91.9	95.3	97.3	98.0	98.5	98.7	98.7	98.9	98.9	99.0	99.0	99.0	99.0	99.0
IV 300	50.8	90.5	91.9	95.3	97.3	98.0	98.5	99.0	99.1	99.2	99.2	99.3	99.3	99.3	99.3	99.3
IV 200	50.8	90.5	91.9	95.3	97.3	98.0	98.5	99.1	99.2	99.2	99.3	99.3	99.3	99.3	99.3	99.3
IV 100	50.8	90.5	91.9	95.3	97.3	98.0	98.5	99.1	99.2	99.2	99.3	99.3	99.3	99.3	99.3	99.3
IV 0	50.8	90.5	91.9	95.3	97.3	98.0	98.5	99.1	99.2	99.2	99.3	99.3	99.3	99.3	99.3	99.3

TOTAL NUMBER OF OBSERVATIONS 790

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

126390
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

JUN
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1800-2000
HOURS A DAY

CEILING (FEET)	VISIBILITY (STATUTE MILES)															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2½	≥ 2	≥ 1½	≥ 1¼	≥ 1	≥ ¾	≥ ½	≥ ¼	≥ 1/8	≥ 1/16	≥ 1/32
NO CEILING	34.0	53.1	54.0	56.0	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9
≥ 20000	37.6	58.3	59.1	61.4	62.5	62.7	62.7	62.7	62.7	62.7	62.7	62.7	62.7	62.7	62.7	62.7
≥ 18000	37.6	58.3	59.1	61.4	62.5	62.7	62.7	62.7	62.7	62.7	62.7	62.7	62.7	62.7	62.7	62.7
≥ 16000	37.6	58.3	59.1	61.4	62.5	62.7	62.7	62.7	62.7	62.7	62.7	62.7	62.7	62.7	62.7	62.7
≥ 14000	37.6	58.3	59.1	61.4	62.5	62.7	62.7	62.7	62.7	62.7	62.7	62.7	62.7	62.7	62.7	62.7
≥ 12000	38.7	59.8	60.7	62.9	64.1	64.2	64.2	64.2	64.2	64.2	64.2	64.2	64.2	64.2	64.2	64.2
≥ 10000	40.0	63.2	64.2	66.6	67.7	68.0	68.0	68.0	68.0	68.0	68.0	68.0	68.0	68.0	68.0	68.0
≥ 9000	40.1	63.7	64.7	67.2	68.3	68.6	68.6	68.6	68.6	68.6	68.6	68.6	68.6	68.6	68.6	68.6
≥ 8000	41.4	67.3	68.5	71.2	72.5	72.8	72.8	72.8	72.8	72.8	72.8	72.8	72.8	72.8	72.8	72.8
≥ 7000	42.1	69.1	70.2	73.1	74.4	74.7	74.7	74.7	74.7	74.7	74.9	74.9	74.9	74.9	74.9	74.9
≥ 6000	42.5	69.9	71.0	74.0	75.4	75.7	75.7	75.7	75.7	75.9	75.9	75.9	75.9	75.9	75.9	75.9
≥ 5000	43.6	72.0	73.5	76.8	78.4	78.7	78.7	78.7	78.7	78.9	78.9	78.9	78.9	78.9	78.9	78.9
≥ 4500	45.2	77.4	78.8	82.6	84.2	84.5	84.5	84.5	84.5	84.7	84.7	84.7	84.7	84.7	84.7	84.7
≥ 4000	46.3	78.3	80.1	84.0	86.0	86.3	86.3	86.3	86.3	86.5	86.5	86.5	86.5	86.5	86.5	86.5
≥ 3500	47.0	79.7	81.6	85.8	87.9	88.1	88.1	88.1	88.1	88.4	88.4	88.4	88.4	88.4	88.4	88.4
≥ 3000	48.3	81.7	83.6	87.8	89.9	90.2	90.2	90.2	90.2	90.4	90.4	90.4	90.4	90.4	90.4	90.4
≥ 2500	48.3	82.6	84.9	89.2	91.3	91.6	91.6	91.6	91.6	91.8	91.8	91.8	91.8	91.8	91.8	91.8
≥ 2000	49.1	84.7	87.0	91.3	93.6	93.8	93.9	93.9	93.9	94.2	94.3	94.3	94.3	94.3	94.3	94.3
≥ 1800	49.6	85.6	87.9	92.2	94.5	94.7	94.8	94.8	94.8	95.1	95.2	95.2	95.2	95.2	95.2	95.2
≥ 1500	49.7	86.5	88.8	93.2	95.6	95.8	96.1	96.1	96.1	96.3	96.5	96.5	96.5	96.5	96.5	96.5
≥ 1200	49.7	87.0	89.3	93.7	96.1	96.3	96.6	96.6	96.6	96.8	97.0	97.0	97.0	97.0	97.0	97.0
≥ 1000	49.7	87.0	89.3	93.7	96.1	96.5	96.8	96.8	96.8	97.1	97.2	97.2	97.2	97.2	97.2	97.2
≥ 900	49.7	87.1	89.5	93.9	96.3	96.7	97.1	97.1	97.1	97.4	97.5	97.5	97.5	97.5	97.5	97.5
≥ 800	49.7	87.3	89.7	94.1	96.5	96.8	97.2	97.2	97.2	97.5	97.6	97.6	97.6	97.6	97.6	97.6
≥ 700	49.7	87.3	89.7	94.3	96.7	97.1	97.5	97.5	97.5	97.7	97.9	97.9	97.9	97.9	97.9	97.9
≥ 600	49.8	87.4	89.9	94.7	97.1	97.5	98.0	98.0	98.0	98.2	98.4	98.5	98.5	98.5	98.5	98.5
≥ 500	49.8	87.5	90.0	94.8	97.2	97.6	98.1	98.1	98.1	98.4	98.5	98.6	98.6	98.6	98.6	98.6
≥ 400	49.8	87.5	90.2	95.0	97.4	97.7	98.4	98.4	98.4	98.6	98.9	99.0	99.0	99.0	99.0	99.0
≥ 300	49.8	87.5	90.2	95.0	97.4	97.7	98.6	98.6	98.6	98.9	99.2	99.4	99.4	99.4	99.4	99.4
≥ 200	49.8	87.5	90.2	95.0	97.4	97.7	98.6	98.6	98.6	98.9	99.2	99.5	99.5	99.5	99.5	99.5
≥ 100	49.8	87.5	90.2	95.0	97.4	97.7	98.6	98.6	98.6	98.9	99.2	99.5	99.5	99.5	99.7	100.0
≥ 0	49.8	87.5	90.2	95.0	97.4	97.7	98.6	98.6	98.6	98.9	99.2	99.5	99.5	99.5	99.7	100.0

TOTAL NUMBER OF OBSERVATIONS 193

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

72639-1
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

JUN
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

2100-2300
HOURS LT

CEILING FEET	VISIBILITY STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1.25	≥1	≥0.75	≥0.5	≥0.25	≥0.15	≥0.1	≥0
NO CEILING ≥ 20000	53.4	53.4	55.5	56.9	58.0	58.3	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.9	58.9	58.9
IV 18000	35.0	57.0	59.7	61.6	62.8	63.1	63.8	63.8	63.8	63.8	63.8	63.8	63.8	64.0	64.0	64.0
IV 16000	35.0	57.0	59.7	61.6	62.8	63.1	63.8	63.8	63.8	63.8	63.8	63.8	63.8	64.0	64.0	64.0
IV 14000	35.0	57.0	59.7	61.6	62.8	63.1	63.8	63.8	63.8	63.8	63.8	63.8	63.8	64.0	64.0	64.0
IV 12000	35.9	57.9	60.6	62.5	63.7	64.0	64.7	64.7	64.7	64.7	64.7	64.7	64.7	64.9	64.9	64.9
IV 10000	36.5	59.5	62.6	64.7	66.0	66.2	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.1	67.1	67.1
IV 9000	36.5	59.5	63.0	65.1	66.5	66.8	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.6	67.6	67.6
IV 8000	38.4	63.7	66.8	69.2	70.5	70.8	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.7	71.7	71.7
IV 7000	38.9	65.9	68.9	71.3	72.7	72.9	73.7	73.7	73.7	73.7	73.7	73.7	73.7	73.8	73.8	73.8
IV 6000	39.7	67.1	70.2	72.8	74.5	74.7	75.5	75.5	75.5	75.5	75.5	75.5	75.5	75.6	75.6	75.6
IV 5000	41.1	69.0	72.2	74.8	77.0	77.2	78.0	78.0	78.0	78.0	78.0	78.0	78.0	78.1	78.1	78.1
IV 4500	42.7	71.8	75.7	78.8	80.9	81.2	81.9	81.9	81.9	81.9	81.9	81.9	81.9	82.0	82.0	82.0
IV 4000	43.1	72.6	76.5	79.6	81.9	82.2	82.9	82.9	82.9	82.9	82.9	82.9	82.9	83.1	83.1	83.1
IV 3500	44.1	74.5	78.4	81.8	84.2	84.5	85.2	85.2	85.2	85.2	85.2	85.2	85.2	85.3	85.3	85.3
IV 3000	45.0	76.2	80.3	83.9	86.3	86.6	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.7	87.7	87.7
IV 2500	45.1	77.4	81.8	85.5	87.9	88.4	89.3	89.3	89.3	89.5	89.5	89.5	89.5	89.6	89.6	89.6
IV 2000	45.5	79.5	83.8	87.6	90.0	90.8	91.7	91.7	91.7	91.9	91.9	91.9	91.9	92.0	92.0	92.0
IV 1800	45.5	79.4	83.9	87.7	90.1	90.9	91.8	91.8	91.8	92.0	92.0	92.0	92.0	92.2	92.2	92.2
IV 1500	45.6	80.5	85.2	89.0	91.7	92.4	93.3	93.6	93.6	93.8	93.8	93.8	93.8	93.9	93.9	93.9
IV 1200	45.6	80.8	85.6	89.4	92.2	92.9	93.8	94.1	94.1	94.3	94.3	94.3	94.3	94.4	94.4	94.4
IV 1000	45.8	81.4	86.2	90.1	93.0	93.8	94.7	94.9	94.9	95.2	95.2	95.2	95.2	95.3	95.3	95.3
IV 900	45.8	81.5	86.3	90.3	93.2	93.9	94.9	95.2	95.2	95.4	95.4	95.4	95.4	95.6	95.6	95.6
IV 800	45.8	81.8	86.6	90.5	93.4	94.2	95.3	95.6	95.6	95.8	95.8	95.8	95.8	96.0	96.0	96.0
IV 700	45.8	82.4	87.0	90.9	93.9	94.7	95.8	96.1	96.1	96.3	96.3	96.3	96.3	96.5	96.5	96.5
IV 600	45.8	82.0	87.2	91.3	94.3	95.1	96.3	96.6	96.6	96.8	96.8	96.8	96.8	97.0	97.0	97.0
IV 500	45.9	82.3	87.6	91.7	94.8	95.7	97.0	97.2	97.2	97.5	97.5	97.5	97.5	97.6	97.6	97.6
IV 400	45.9	82.3	87.6	91.9	95.1	96.0	97.3	97.6	97.6	97.9	97.9	97.9	97.9	98.0	98.0	98.0
IV 300	45.9	82.7	88.0	92.3	95.6	96.5	98.0	98.2	98.2	98.6	98.6	98.6	98.6	98.7	98.7	98.7
IV 200	45.9	82.7	88.0	92.3	95.6	96.5	98.1	98.4	98.4	98.9	98.9	98.9	98.9	99.1	99.1	99.1
IV 100	45.9	82.7	88.0	92.3	95.6	96.5	98.1	98.4	98.4	98.9	98.9	98.9	98.9	99.2	99.2	99.2
IV 0	45.9	82.7	88.0	92.3	95.6	96.5	98.1	98.4	98.4	98.9	98.9	98.9	98.9	99.2	99.2	99.2

TOTAL NUMBER OF OBSERVATIONS 791

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AL- WEATHER SERVICE/MAL

CEILING VERSUS VISIBILITY

12639
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

JUN
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

ALL
HOURS 1-24

CEILING FEET	VISIBILITY (STATUTE MILES)															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1.0	≥ 0.5	≥ 0.25	≥ 0.15	≥ 0.1	≥ 0.05	≥ 0.025	≥ 0.01
NO CEILING	32.0	51.1	52.4	53.4	54.3	54.6	55.0	55.2	55.2	55.3	55.4	55.4	55.4	55.4	55.5	55.5
≥ 20000	34.0	55.3	56.8	58.1	59.2	59.4	59.9	60.2	60.2	60.3	60.3	60.3	60.4	60.4	60.5	60.5
≥ 18000	34.0	55.3	56.8	58.1	59.2	59.4	59.9	60.2	60.2	60.3	60.4	60.4	60.4	60.4	60.5	60.5
≥ 16000	34.0	55.3	56.8	58.1	59.2	59.4	59.9	60.2	60.2	60.3	60.4	60.4	60.4	60.4	60.5	60.5
≥ 14000	34.1	55.7	57.2	58.5	59.5	59.8	60.3	60.6	60.6	60.7	60.7	60.7	60.8	60.8	60.9	60.9
≥ 12000	34.9	56.6	58.0	59.4	60.4	60.7	61.2	61.5	61.5	61.6	61.6	61.6	61.7	61.7	61.8	61.8
≥ 10000	35.7	58.7	60.3	61.8	62.9	63.2	63.7	64.0	64.0	64.1	64.2	64.2	64.2	64.2	64.3	64.3
≥ 9000	35.9	59.3	60.9	62.5	63.6	63.9	64.4	64.7	64.7	64.8	64.8	64.8	64.9	64.9	65.0	65.0
≥ 8000	37.0	62.2	63.9	65.7	66.9	67.2	67.7	68.0	68.0	68.1	68.2	68.2	68.2	68.2	68.3	68.4
≥ 7000	37.8	64.0	65.8	67.6	68.9	69.2	69.7	70.0	70.0	70.1	70.2	70.2	70.3	70.3	70.3	70.4
≥ 6000	38.5	65.4	67.3	69.3	70.6	71.0	71.5	71.8	71.8	71.9	72.0	72.0	72.1	72.1	72.1	72.2
≥ 5000	39.5	67.6	69.6	71.8	73.3	73.6	74.2	74.5	74.5	74.7	74.7	74.7	74.8	74.8	74.9	74.9
≥ 4500	40.9	70.4	72.7	75.2	76.7	77.0	77.6	77.9	78.0	78.1	78.2	78.2	78.2	78.2	78.3	78.4
≥ 4000	41.4	71.8	74.1	76.7	78.4	78.7	79.3	79.6	79.6	79.8	79.9	79.9	79.9	79.9	80.0	80.1
≥ 3500	42.4	74.1	76.5	79.2	80.9	81.2	81.9	82.3	82.3	82.4	82.5	82.5	82.6	82.6	82.7	82.7
≥ 3000	43.2	75.8	78.3	81.1	82.9	83.2	83.9	84.3	84.3	84.5	84.6	84.6	84.6	84.6	84.7	84.8
≥ 2500	43.7	77.3	79.9	82.8	84.7	85.1	85.9	86.3	86.3	86.5	86.6	86.6	86.6	86.6	86.7	86.8
≥ 2000	44.4	79.3	82.0	85.0	86.9	87.4	88.2	88.5	88.6	88.8	88.9	88.9	89.0	89.0	89.0	89.1
≥ 1800	44.7	79.8	82.6	85.7	87.6	88.0	88.8	89.2	89.2	89.4	89.5	89.5	89.6	89.6	89.7	89.7
≥ 1500	45.2	81.5	84.4	87.6	89.5	90.0	90.9	91.3	91.3	91.5	91.6	91.6	91.7	91.7	91.8	91.9
≥ 1200	45.4	82.4	85.3	88.5	90.6	91.0	91.9	92.3	92.3	92.5	92.7	92.7	92.8	92.8	92.9	92.9
≥ 1000	45.6	83.2	86.2	89.5	91.5	92.0	93.0	93.4	93.4	93.6	93.8	93.8	93.9	93.9	94.0	94.0
≥ 900	45.7	83.5	86.6	89.9	91.9	92.4	93.4	93.8	93.8	94.1	94.2	94.2	94.3	94.3	94.4	94.4
≥ 800	45.8	83.9	87.0	90.4	92.5	93.1	94.1	94.5	94.5	94.7	94.8	94.8	94.9	94.9	95.0	95.1
≥ 700	45.9	84.2	87.4	90.9	93.1	93.6	94.6	95.0	95.0	95.3	95.4	95.4	95.5	95.5	95.6	95.7
≥ 600	45.9	84.4	87.7	91.3	93.6	94.1	95.2	95.6	95.6	95.9	96.0	96.0	96.1	96.1	96.2	96.3
≥ 500	46.0	84.7	88.1	91.7	94.1	94.7	95.8	96.3	96.3	96.6	96.7	96.7	96.8	96.8	96.9	97.0
≥ 400	46.0	84.8	88.3	92.0	94.4	95.1	96.4	96.9	97.0	97.3	97.5	97.5	97.6	97.6	97.7	97.8
≥ 300	46.0	84.9	88.4	92.2	94.7	95.4	96.8	97.4	97.5	97.9	98.1	98.2	98.3	98.3	98.4	98.5
≥ 200	46.0	84.9	88.4	92.2	94.7	95.4	96.9	97.6	97.7	98.1	98.4	98.5	98.7	98.7	98.8	98.9
≥ 100	46.0	84.9	88.4	92.2	94.7	95.4	96.9	97.6	97.7	98.2	98.5	98.7	98.9	99.1	99.5	99.7
≥ 0	46.0	84.9	88.4	92.2	94.7	95.4	96.9	97.6	97.7	98.2	98.6	98.7	98.9	99.1	99.5	100.0

TOTAL NUMBER OF OBSERVATIONS 6335

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

120590
STATION

PHILIPS-COLLINS/ALPENA MI

73-81

JUL

0000-0200
HOURS, LST

PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

CEILING (FEET)	VISIBILITY (STATUTE MILES)															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1.25	≥1	≥.75	≥.5	≥.25	≥.1	≥.05	≥.01
NO CEILING ≥ 20000	38.4	60.6	64.8	67.2	68.6	68.9	70.3	70.3	70.3	70.4	70.4	70.4	70.6	70.6	70.7	70.7
IV 18000	39.0	63.5	67.8	70.2	71.6	71.9	73.3	73.3	73.3	73.4	73.4	73.4	73.5	73.5	73.7	73.7
IV 16000	39.1	63.7	68.1	70.4	71.8	72.2	73.5	73.5	73.5	73.7	73.7	73.7	73.8	73.8	73.9	73.9
IV 14000	39.1	63.7	68.1	70.4	71.8	72.2	73.5	73.5	73.5	73.7	73.7	73.7	73.8	73.8	73.9	73.9
IV 12000	39.1	63.7	68.1	70.4	71.8	72.2	73.5	73.5	73.5	73.7	73.7	73.7	73.8	73.8	73.9	73.9
IV 10000	39.1	63.7	68.1	70.4	71.8	72.2	73.5	73.5	73.5	73.7	73.7	73.7	73.8	73.8	73.9	73.9
IV 9000	39.1	63.7	68.1	70.4	71.8	72.2	73.5	73.5	73.5	73.7	73.7	73.7	73.8	73.8	73.9	73.9
IV 8000	41.1	66.5	71.1	73.4	75.0	75.5	76.9	76.9	76.9	77.0	77.0	77.0	77.1	77.1	77.3	77.3
IV 7000	41.2	66.7	71.3	73.7	75.3	75.8	77.1	77.1	77.1	77.3	77.3	77.3	77.4	77.4	77.5	77.5
IV 6000	41.9	68.2	72.9	75.4	77.0	77.6	79.1	79.1	79.1	79.3	79.3	79.3	79.4	79.4	79.5	79.5
IV 5000	42.0	68.6	73.4	76.1	77.8	78.4	79.9	79.9	79.9	80.0	80.0	80.0	80.1	80.1	80.2	80.2
IV 4500	42.2	69.2	74.4	77.1	78.9	79.5	81.0	81.0	81.0	81.1	81.1	81.1	81.2	81.2	81.4	81.4
IV 4000	43.4	71.2	76.8	79.8	81.6	82.2	83.9	83.9	83.9	84.0	84.0	84.0	84.1	84.1	84.2	84.2
IV 3500	44.3	73.2	79.0	82.4	84.5	85.1	86.8	86.8	86.8	87.0	87.0	87.0	87.1	87.1	87.2	87.2
IV 3000	44.7	73.9	79.8	83.1	85.2	85.8	87.6	87.6	87.6	87.7	87.7	87.7	87.8	87.8	88.0	88.0
IV 2500	45.0	74.7	81.2	84.7	87.0	87.6	89.3	89.3	89.3	89.6	89.7	89.7	89.8	89.8	89.9	89.9
IV 2000	45.6	75.1	82.5	86.2	88.6	89.2	90.9	90.9	90.9	91.2	91.3	91.3	91.4	91.4	91.6	91.6
IV 1800	46.2	76.4	83.5	87.2	89.6	90.6	92.4	92.4	92.4	92.7	92.8	92.8	92.9	92.9	93.0	93.0
IV 1600	46.3	76.5	83.7	87.5	89.8	90.8	92.7	92.7	92.7	92.9	93.0	93.0	93.2	93.2	93.3	93.3
IV 1400	46.5	77.0	84.3	88.1	90.4	91.6	93.5	93.5	93.5	93.8	93.9	93.9	94.0	94.0	94.2	94.2
IV 1200	46.6	77.1	84.5	88.2	90.6	91.7	93.7	93.7	93.7	93.9	94.0	94.0	94.2	94.2	94.3	94.3
IV 1000	46.8	77.4	84.8	88.8	91.5	92.4	94.5	94.5	94.5	94.8	94.9	94.9	95.0	95.0	95.2	95.2
IV 900	47.0	77.5	85.0	88.9	91.4	92.5	94.7	94.7	94.7	94.9	95.0	95.0	95.2	95.2	95.3	95.3
IV 800	47.0	77.8	85.2	89.2	91.7	92.8	94.9	94.9	94.9	95.2	95.3	95.3	95.4	95.4	95.5	95.5
IV 700	47.0	78.1	85.7	89.7	92.2	93.4	95.5	95.5	95.5	95.8	95.9	95.9	96.0	96.0	96.1	96.1
IV 600	47.0	78.1	85.7	89.7	92.2	93.4	95.7	95.8	95.8	96.0	96.1	96.1	96.3	96.3	96.4	96.4
IV 500	47.0	78.1	85.8	89.8	92.3	93.5	95.9	96.4	96.4	96.6	96.8	96.8	96.9	96.9	97.0	97.0
IV 400	47.0	78.1	85.8	89.9	92.4	93.8	96.1	96.6	96.6	96.9	97.0	97.0	97.1	97.1	97.3	97.3
IV 300	47.0	78.1	85.8	89.9	92.4	93.8	96.4	97.0	97.0	97.3	97.4	97.4	97.5	97.5	97.6	97.6
IV 200	47.0	78.1	85.8	89.9	92.4	93.8	96.4	97.0	97.0	97.4	97.5	97.5	97.8	97.8	97.9	97.9
IV 100	47.0	78.1	85.8	89.9	92.4	93.8	96.4	97.0	97.0	97.5	97.9	97.9	98.3	98.3	98.6	98.6
IV 0	47.0	78.1	85.8	89.9	92.4	93.8	96.4	97.0	97.0	97.5	97.9	97.9	98.3	98.3	98.8	98.8

TOTAL NUMBER OF OBSERVATIONS 805

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

126390

PHELPS-COLLINS/ALPENA MI

73-81

JUL

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0300-0500
HOURS

CEILING (FEET)	VISIBILITY (STATUTE MILES)															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1.0	≥1	≥.5	≥.25	≥.16	≥.1	≥.05	≥.01
NO CEILING ≥ 20000	34.2	52.0	56.2	59.2	62.1	62.6	64.3	64.7	64.7	65.4	66.0	66.1	66.4	66.4	66.7	67.4
IV 18000	35.2	54.6	58.7	61.8	64.8	65.4	67.2	67.6	67.6	68.3	69.1	69.2	69.4	69.4	69.8	70.4
IV 16000	35.2	54.6	58.7	61.8	64.8	65.4	67.2	67.6	67.6	68.3	69.1	69.2	69.4	69.4	69.8	70.4
IV 14000	35.2	54.6	58.7	61.8	64.8	65.4	67.2	67.6	67.6	68.3	69.1	69.2	69.4	69.4	69.8	70.4
IV 12000	35.2	54.6	58.7	61.8	64.8	65.4	67.2	67.6	67.6	68.3	69.1	69.2	69.4	69.4	69.8	70.4
IV 10000	36.7	57.2	61.4	64.7	67.7	68.5	70.4	70.8	70.8	71.5	72.2	72.4	72.6	72.6	73.0	73.6
IV 9000	36.9	57.5	61.6	64.9	68.0	68.7	70.6	71.0	71.0	71.7	72.5	72.6	72.8	72.8	73.2	73.8
IV 8000	38.1	59.7	63.8	67.4	70.4	71.1	73.1	73.4	73.4	74.3	75.0	75.2	75.4	75.4	75.8	76.5
IV 7000	38.7	60.9	65.2	68.7	71.7	72.5	74.4	74.8	74.8	75.6	76.4	76.5	76.7	76.7	77.1	77.8
IV 6000	38.4	61.4	65.7	69.2	72.4	73.1	75.0	75.4	75.4	76.2	77.0	77.1	77.3	77.3	77.7	78.4
IV 5000	39.5	63.1	67.7	71.4	74.5	75.3	77.3	77.7	77.7	78.6	79.3	79.4	79.7	79.7	80.0	80.8
IV 4500	40.6	64.8	69.4	73.6	76.7	77.5	79.7	80.0	80.0	80.9	81.6	81.7	82.0	82.0	82.3	83.1
IV 4000	41.0	66.0	70.6	74.9	78.1	78.8	81.0	81.4	81.4	82.2	82.9	83.1	83.3	83.3	83.7	84.4
IV 3500	41.5	67.4	72.1	76.5	79.7	80.4	82.7	83.2	83.2	84.0	84.8	84.9	85.1	85.1	85.5	86.2
IV 3000	41.8	68.3	73.2	77.8	81.1	81.9	84.4	84.9	84.9	85.7	86.6	86.7	87.0	87.0	87.3	88.1
IV 2500	41.6	68.7	73.6	78.3	81.7	82.5	85.1	85.6	85.6	86.5	87.3	87.5	87.7	87.7	88.1	88.8
IV 2000	42.5	69.4	74.3	79.3	82.7	83.6	86.4	86.8	86.8	87.7	88.6	88.7	88.9	88.9	89.3	90.0
IV 1800	42.3	69.7	74.7	79.8	83.2	84.0	86.8	87.3	87.3	88.2	89.0	89.2	89.4	89.4	89.8	90.5
IV 1500	42.6	70.4	75.5	80.6	84.0	84.9	87.8	88.3	88.3	89.2	90.0	90.1	90.4	90.4	90.7	91.5
IV 1200	42.8	70.8	76.0	81.1	84.5	85.4	88.3	88.8	88.8	89.6	90.5	90.6	90.9	90.9	91.2	92.0
IV 1000	42.4	71.1	76.4	81.5	84.9	85.7	88.8	89.3	89.3	90.1	91.0	91.1	91.4	91.4	91.7	92.4
IV 900	42.4	71.3	76.5	81.6	85.1	86.0	89.0	89.5	89.5	90.4	91.2	91.4	91.6	91.6	92.0	92.7
IV 800	43.2	71.9	77.1	82.3	85.9	86.7	89.9	90.4	90.4	91.2	92.1	92.2	92.4	92.4	92.8	93.5
IV 700	43.4	72.2	77.6	83.1	86.8	87.7	90.9	91.5	91.5	92.3	93.4	93.5	93.8	93.8	94.2	94.9
IV 600	43.4	72.2	77.7	83.2	87.1	87.9	91.1	91.7	91.7	92.6	93.7	93.8	94.0	94.0	94.4	95.1
IV 500	43.4	72.4	77.8	83.4	87.3	88.2	91.5	92.3	92.3	93.2	94.3	94.4	94.6	94.6	95.0	95.7
IV 400	43.4	72.6	78.1	83.6	87.6	88.7	92.2	93.1	93.1	94.2	95.2	95.4	95.6	95.6	96.0	96.7
IV 300	43.4	72.6	78.1	83.9	87.9	88.8	92.3	93.3	93.3	94.4	95.4	95.6	95.8	95.8	96.2	96.9
IV 200	43.4	72.6	78.1	83.9	88.2	89.0	92.7	93.9	93.9	95.4	96.5	96.6	97.0	97.0	97.4	98.2
IV 100	43.4	72.6	78.1	83.9	88.2	89.0	92.7	93.9	93.9	95.4	96.5	96.7	97.1	97.1	98.2	99.1
IV 0	43.4	72.6	78.1	83.9	88.2	89.0	92.7	93.9	93.9	95.4	96.5	96.7	97.1	97.1	98.5	100.0

TOTAL NUMBER OF OBSERVATIONS 821

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

726390
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

JUL
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0600-0600
HOURS

CEILING (FEET)	VISIBILITY (STATUTE MILES)															
	≥10	≥6	≥5	≥4	≥3	≥2½	≥2	≥1½	≥1¼	≥1	≥¾	≥½	≥¼	≥1/16	≥.	≥0
NO CEILING	28.2	40.4	50.2	52.8	54.6	56.1	57.1	57.9	58.0	58.5	59.0	59.0	59.0	59.0	59.2	59.5
≥ 20000	29.5	49.4	53.0	55.8	57.7	59.3	60.4	61.4	61.5	62.1	62.6	62.6	62.6	62.6	62.7	63.1
≥ 18000	29.5	49.4	53.0	55.8	57.7	59.3	60.4	61.4	61.5	62.1	62.6	62.6	62.6	62.6	62.7	63.1
≥ 16000	29.5	49.4	53.0	55.8	57.7	59.3	60.4	61.4	61.5	62.1	62.6	62.6	62.6	62.6	62.7	63.1
≥ 14000	29.7	49.6	53.2	56.1	57.9	59.7	60.8	61.8	61.9	62.5	63.0	63.0	63.0	63.0	63.1	63.5
≥ 12000	30.2	50.5	54.1	56.9	58.8	60.5	61.6	62.6	62.7	63.4	63.9	63.9	63.9	63.9	64.0	64.4
≥ 10000	30.7	53.0	57.7	60.5	62.5	64.2	65.5	66.6	66.7	67.5	67.9	67.9	67.9	67.9	68.1	68.4
≥ 9000	31.1	54.0	58.0	60.9	62.9	64.6	65.8	67.0	67.1	67.8	68.3	68.3	68.3	68.3	68.4	68.8
≥ 8000	33.2	57.5	61.8	65.0	67.2	68.9	70.2	71.5	71.7	72.4	73.1	73.1	73.1	73.1	73.3	73.6
≥ 7000	34.5	59.7	64.1	67.3	69.6	71.3	72.5	73.9	74.0	74.8	75.5	75.5	75.5	75.5	75.6	76.0
≥ 6000	34.8	60.5	65.0	68.2	70.4	72.2	73.5	74.9	75.0	75.7	76.5	76.5	76.5	76.5	76.6	77.0
≥ 5000	36.0	62.4	67.5	70.9	73.3	75.0	76.4	77.7	77.8	78.7	79.5	79.5	79.5	79.5	79.6	80.0
≥ 4500	36.5	64.2	68.8	72.6	75.2	77.4	78.8	80.2	80.3	81.3	82.1	82.1	82.1	82.1	82.2	82.5
≥ 4000	37.0	64.9	69.6	73.4	76.1	78.2	79.7	81.1	81.2	82.2	82.9	82.9	82.9	82.9	83.0	83.4
≥ 3500	37.4	65.8	70.7	74.5	77.2	79.3	80.9	82.3	82.4	83.4	84.2	84.2	84.2	84.2	84.3	84.7
≥ 3000	37.6	66.7	71.7	75.9	78.6	80.7	82.3	83.7	83.8	84.8	85.5	85.5	85.5	85.5	85.6	86.0
≥ 2500	38.1	67.3	72.8	77.0	79.8	81.9	83.5	84.9	85.0	86.1	87.0	87.0	87.0	87.0	87.1	87.5
≥ 2000	38.4	67.8	73.3	77.5	80.4	82.5	84.3	85.6	85.8	86.9	87.7	87.7	87.7	87.7	87.9	88.2
≥ 1800	38.6	68.7	74.1	78.3	81.3	83.4	85.3	86.6	86.9	88.0	88.9	88.9	88.9	88.9	89.0	89.4
≥ 1500	38.9	69.2	74.8	79.0	81.9	84.0	86.0	87.6	87.7	88.9	89.7	89.7	89.7	89.7	89.9	90.2
≥ 1200	39.4	69.9	75.5	80.0	82.9	85.1	87.4	89.2	89.4	90.5	91.3	91.3	91.3	91.3	91.5	91.8
≥ 1000	39.9	70.4	76.2	80.8	83.9	86.1	88.7	90.6	90.7	91.8	92.7	92.7	92.7	92.7	92.8	93.2
≥ 900	40.2	70.8	76.6	81.2	84.3	86.5	89.1	91.0	91.1	92.2	93.1	93.1	93.1	93.1	93.2	93.6
≥ 800	40.5	71.4	77.0	81.6	84.8	87.0	89.6	91.5	91.6	92.7	93.6	93.6	93.6	93.6	93.7	94.1
≥ 700	40.5	71.2	77.1	81.8	85.1	87.3	90.3	92.5	92.6	93.7	94.6	94.6	94.6	94.6	94.7	95.0
≥ 600	40.5	71.4	77.4	82.1	85.4	87.7	90.7	92.8	92.9	94.1	94.9	94.9	94.9	94.9	95.0	95.4
≥ 500	40.6	71.7	77.6	82.4	86.0	88.4	91.3	93.7	93.8	94.9	95.8	95.8	95.8	95.8	95.9	96.3
≥ 400	40.6	71.9	77.8	82.8	86.5	89.0	92.1	94.6	94.7	96.0	96.9	96.9	96.9	96.9	97.0	97.4
≥ 300	40.6	72.0	78.0	82.9	86.6	89.2	92.3	94.9	95.0	96.5	97.4	97.4	97.4	97.4	97.5	97.9
≥ 200	40.6	72.0	78.0	83.0	86.8	89.4	92.5	95.0	95.2	96.9	98.0	98.0	98.0	98.0	98.1	98.5
≥ 100	40.6	72.0	78.0	83.0	86.8	89.4	92.5	95.0	95.2	96.9	98.1	98.1	98.4	98.4	98.8	99.5
≥ 0	40.6	72.0	78.0	83.0	86.8	89.4	92.5	95.0	95.2	96.9	98.1	98.1	98.4	98.4	98.9	100.0

TOTAL NUMBER OF OBSERVATIONS 888

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAL

CEILING VERSUS VISIBILITY

126390 PHELPS-COLLINS/ALPENA MI

73-81

JUL

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0900-1100
HOURS

CEILING FEET	VISIBILITY (STATUTE MILES)															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2½	≥ 2	≥ 1½	≥ 1¼	≥ 1	≥ ¾	≥ ½	≥ ¼	≥ 1/8	≥ 0	≥ 0
NO CEILING	35.9	56.1	57.2	58.4	59.6	59.7	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3
≥ 20000	38.1	60.3	61.4	62.8	64.0	64.1	64.7	64.7	64.7	64.7	64.7	64.7	64.7	64.7	64.7	64.7
IVN 18000	38.1	60.3	61.4	62.8	64.0	64.1	64.7	64.7	64.7	64.7	64.7	64.7	64.7	64.7	64.7	64.7
IVN 16000	38.1	60.3	61.4	62.8	64.0	64.1	64.7	64.7	64.7	64.7	64.7	64.7	64.7	64.7	64.7	64.7
IVN 14000	38.6	60.8	61.9	63.3	64.5	64.6	65.2	65.2	65.2	65.2	65.2	65.2	65.2	65.2	65.2	65.2
IVN 12000	40.0	63.1	64.4	65.7	67.0	67.1	67.7	67.7	67.7	67.7	67.7	67.7	67.7	67.7	67.7	67.7
IVN 10000	40.9	65.7	67.2	68.8	70.3	70.4	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0
IVN 9000	41.4	66.1	67.6	69.2	70.7	70.8	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4
IVN 8000	42.4	67.9	69.5	71.3	72.7	73.0	73.6	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9
IVN 7000	43.5	70.0	71.6	73.6	75.2	75.5	76.1	76.3	76.3	76.3	76.3	76.3	76.3	76.3	76.3	76.3
IVN 6000	44.1	70.8	72.4	74.8	76.4	76.7	77.7	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9
IVN 5000	45.3	72.9	74.5	77.1	78.8	79.0	80.0	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4
IVN 4500	46.0	74.5	76.1	78.8	80.6	80.9	81.9	82.2	82.2	82.2	82.2	82.2	82.2	82.2	82.2	82.2
IVN 4000	46.2	75.4	76.9	79.7	81.5	81.8	82.9	83.2	83.2	83.2	83.2	83.2	83.2	83.2	83.2	83.2
IVN 3500	46.7	76.1	78.1	80.9	82.9	83.1	84.2	84.6	84.6	84.6	84.6	84.6	84.6	84.6	84.6	84.6
IVN 3000	47.3	77.3	79.3	82.4	84.3	84.6	85.7	86.1	86.1	86.1	86.1	86.1	86.1	86.1	86.1	86.1
IVN 2500	48.0	78.2	80.1	83.2	85.2	85.5	86.6	86.9	86.9	86.9	86.9	86.9	86.9	86.9	86.9	86.9
IVN 2000	48.5	78.8	80.8	83.8	85.9	86.2	87.4	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8
IVN 1800	48.6	79.0	81.0	84.2	86.4	86.7	87.9	88.3	88.3	88.3	88.3	88.3	88.3	88.3	88.3	88.3
IVN 1500	49.4	80.6	82.6	86.2	88.7	88.9	90.1	90.5	90.5	90.5	90.5	90.5	90.5	90.5	90.5	90.5
IVN 1200	50.4	82.2	84.3	88.2	90.9	91.1	92.4	92.7	92.7	92.8	93.0	93.0	93.0	93.0	93.0	93.0
IVN 1000	50.9	83.0	85.2	89.3	92.1	92.4	93.6	94.1	94.1	94.2	94.3	94.3	94.3	94.3	94.3	94.3
IVN 900	51.2	83.2	85.6	89.6	92.6	92.8	94.1	94.6	94.6	94.7	94.8	94.8	94.8	94.8	94.8	94.8
IVN 800	51.3	83.7	86.1	90.1	93.1	93.3	94.6	95.1	95.1	95.2	95.3	95.3	95.3	95.3	95.3	95.3
IVN 700	51.5	83.8	86.2	90.3	93.2	93.5	94.7	95.2	95.2	95.3	95.4	95.4	95.4	95.4	95.4	95.4
IVN 600	51.5	84.3	86.8	91.0	94.1	94.3	95.8	96.3	96.4	96.5	96.7	96.7	96.7	96.7	96.7	96.7
IVN 500	51.5	84.6	87.1	91.2	94.7	94.9	96.4	97.2	97.3	97.5	97.7	97.7	97.7	97.7	97.7	97.7
IVN 400	51.5	84.6	87.1	91.2	95.1	95.4	97.0	97.9	98.2	98.3	98.6	98.6	98.6	98.6	98.6	98.6
IVN 300	51.5	84.8	87.4	91.7	95.8	96.2	97.8	98.6	98.9	99.3	99.4	99.4	99.4	99.4	99.4	99.4
IVN 200	51.5	84.8	87.4	91.7	95.9	96.3	97.9	98.9	99.1	99.5	99.8	99.8	99.8	99.8	99.8	99.8
IVN 100	51.5	84.8	87.4	91.7	95.9	96.3	97.9	98.9	99.1	99.5	99.8	99.8	99.8	99.8	99.8	99.8
IVN 0	51.5	84.8	87.4	91.7	95.9	96.3	97.9	98.9	99.1	99.5	99.8	99.8	99.8	99.8	99.8	99.8

TOTAL NUMBER OF OBSERVATIONS 811

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAL

CEILING VERSUS VISIBILITY

1263911

PHELPS-COLLINS/ALPENA MI

73-81

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1263911

CEILING FEET	VISIBILITY - STATUTE MILES															
	≥ 10	≥ 8	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1.2	≥ 1	≥ .8	≥ .6	≥ .4	≥ .3	≥ .2	≥ .1
NO CEILING	40.5	54.9	56.0	57.1	58.3	58.3	58.7	58.7	58.7	58.7	58.7	58.7	58.7	58.7	58.7	58.7
≥ 20000	43.3	61.2	62.3	64.2	65.8	65.9	66.3	66.3	66.3	66.3	66.3	66.3	66.3	66.3	66.3	66.3
≥ 18000	43.3	61.2	62.3	64.2	65.8	65.9	66.3	66.3	66.3	66.3	66.3	66.3	66.3	66.3	66.3	66.3
≥ 16000	43.3	61.2	62.3	64.2	65.8	65.9	66.3	66.3	66.3	66.3	66.3	66.3	66.3	66.3	66.3	66.3
≥ 14000	43.4	61.6	62.7	64.5	66.1	66.3	66.6	66.6	66.6	66.6	66.6	66.6	66.6	66.6	66.6	66.6
≥ 12000	44.7	63.1	64.2	66.0	67.6	67.7	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1
≥ 10000	46.8	66.1	67.2	69.1	70.9	71.0	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4
≥ 9000	47.3	66.7	67.8	69.7	71.5	71.6	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0
≥ 8000	48.8	68.7	69.9	71.9	74.0	74.1	74.4	74.6	74.6	74.6	74.6	74.6	74.6	74.6	74.6	74.6
≥ 7000	49.1	69.9	71.5	73.2	75.3	75.4	75.8	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0
≥ 6000	49.4	70.7	72.1	74.1	76.2	76.3	76.7	77.0	77.0	77.0	77.0	77.0	77.0	77.0	77.0	77.0
≥ 5000	50.2	71.9	73.5	75.6	77.8	77.9	78.2	78.7	78.7	78.7	78.7	78.7	78.7	78.7	78.7	78.7
≥ 4500	51.6	73.8	75.7	78.2	80.6	80.7	81.1	81.5	81.5	81.5	81.5	81.5	81.5	81.5	81.5	81.5
≥ 4000	52.0	74.4	76.4	79.0	81.8	81.9	82.3	82.8	82.8	82.8	82.8	82.8	82.8	82.8	82.8	82.8
≥ 3500	52.1	75.1	77.3	79.8	82.6	82.8	83.1	83.6	83.6	83.7	83.7	83.7	83.7	83.7	83.7	83.7
≥ 3000	53.3	77.5	79.8	82.4	85.3	85.5	85.8	86.3	86.3	86.4	86.4	86.4	86.4	86.4	86.4	86.4
≥ 2500	54.8	80.1	82.4	85.2	88.4	88.5	88.9	89.4	89.4	89.6	89.7	89.7	89.7	89.7	89.7	89.7
≥ 2000	55.6	81.5	83.9	86.8	90.0	90.1	90.5	91.2	91.2	91.6	91.7	91.7	91.7	91.7	91.7	91.7
≥ 1800	55.9	82.0	84.6	87.9	91.1	91.2	91.7	92.4	92.4	92.8	92.9	92.9	92.9	92.9	92.9	92.9
≥ 1500	56.4	83.1	85.8	89.5	93.0	93.2	93.8	94.5	94.5	94.9	95.0	95.0	95.0	95.0	95.0	95.0
≥ 1200	56.5	83.5	86.3	90.1	93.8	93.9	94.5	95.2	95.2	95.6	95.7	95.7	95.7	95.7	95.7	95.7
≥ 1000	56.7	83.7	86.7	90.5	94.1	94.4	95.1	95.8	95.8	96.2	96.3	96.3	96.3	96.3	96.3	96.3
≥ 900	56.8	83.9	86.8	90.7	94.4	94.6	95.5	96.2	96.2	96.6	96.7	96.7	96.7	96.7	96.7	96.7
≥ 800	57.0	84.1	87.0	91.0	94.6	94.9	96.0	96.7	96.7	97.1	97.2	97.2	97.2	97.2	97.2	97.2
≥ 700	57.0	84.1	87.0	91.0	94.7	95.0	96.2	96.9	96.9	97.3	97.4	97.4	97.4	97.4	97.4	97.4
≥ 600	57.0	84.6	87.5	91.4	95.4	95.6	96.8	97.7	97.7	98.0	98.2	98.2	98.2	98.2	98.2	98.2
≥ 500	57.1	84.7	87.8	91.9	96.0	96.2	97.6	98.4	98.4	98.8	98.9	98.9	98.9	98.9	98.9	98.9
≥ 400	57.1	85.0	88.0	92.2	96.5	96.7	98.3	99.3	99.3	99.6	99.8	99.8	99.8	99.8	99.8	99.8
≥ 300	57.1	85.0	88.0	92.2	96.5	96.7	98.3	99.3	99.3	99.8	99.8	99.8	99.8	99.8	99.8	99.8
≥ 200	57.1	85.0	88.0	92.2	96.5	96.7	98.3	99.3	99.3	99.8	99.8	99.8	99.8	99.8	99.8	99.8
≥ 100	57.1	85.0	88.0	92.2	96.5	96.7	98.3	99.3	99.3	99.8	99.8	99.8	99.8	99.8	99.8	99.8
≥ 0	57.1	85.0	88.0	92.2	96.5	96.7	98.3	99.3	99.3	99.8	99.8	99.8	99.8	99.8	99.8	99.8

TOTAL NUMBER OF OBSERVATIONS 818

USAF ETAC FORM 4-64 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AF WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

12059 PHLEPS-COLLINS/ALPENA MI

73-81

111

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1500-1700

CEILING FEET	VISIBILITY (STATUTE MILES)															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1	≥0.5	≥0.25	≥0.15	≥0.1	≥0.05	≥0.025	≥0
NO CEILING	41.4	56.5	58.0	59.0	59.7	59.7	59.9	59.9	59.9	60.0	60.0	60.0	60.0	60.0	60.0	60.0
≥ 20000	45.1	63.1	64.8	66.1	67.0	67.1	67.7	67.7	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8
≥ 18000	45.1	63.1	64.8	66.1	67.0	67.1	67.7	67.7	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8
≥ 16000	45.1	63.1	64.8	66.1	67.0	67.1	67.7	67.7	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8
≥ 14000	45.1	63.1	64.8	66.1	67.0	67.1	67.7	67.7	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8
≥ 12000	45.1	63.1	64.8	66.1	67.0	67.1	67.7	67.7	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8
≥ 10000	45.1	63.1	64.8	66.1	67.0	67.1	67.7	67.7	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8
≥ 9000	45.1	63.1	64.8	66.1	67.0	67.1	67.7	67.7	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8
≥ 8000	45.1	63.1	64.8	66.1	67.0	67.1	67.7	67.7	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8
≥ 7000	45.1	63.1	64.8	66.1	67.0	67.1	67.7	67.7	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8
≥ 6000	45.1	63.1	64.8	66.1	67.0	67.1	67.7	67.7	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8
≥ 5000	45.1	63.1	64.8	66.1	67.0	67.1	67.7	67.7	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8
≥ 4500	45.1	63.1	64.8	66.1	67.0	67.1	67.7	67.7	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8
≥ 4000	45.1	63.1	64.8	66.1	67.0	67.1	67.7	67.7	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8
≥ 3500	45.1	63.1	64.8	66.1	67.0	67.1	67.7	67.7	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8
≥ 3000	45.1	63.1	64.8	66.1	67.0	67.1	67.7	67.7	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8
≥ 2500	45.1	63.1	64.8	66.1	67.0	67.1	67.7	67.7	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8
≥ 2000	45.1	63.1	64.8	66.1	67.0	67.1	67.7	67.7	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8
≥ 1800	45.1	63.1	64.8	66.1	67.0	67.1	67.7	67.7	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8
≥ 1500	45.1	63.1	64.8	66.1	67.0	67.1	67.7	67.7	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8
≥ 1200	45.1	63.1	64.8	66.1	67.0	67.1	67.7	67.7	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8
≥ 1000	45.1	63.1	64.8	66.1	67.0	67.1	67.7	67.7	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8
≥ 900	45.1	63.1	64.8	66.1	67.0	67.1	67.7	67.7	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8
≥ 800	45.1	63.1	64.8	66.1	67.0	67.1	67.7	67.7	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8
≥ 700	45.1	63.1	64.8	66.1	67.0	67.1	67.7	67.7	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8
≥ 600	45.1	63.1	64.8	66.1	67.0	67.1	67.7	67.7	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8
≥ 500	45.1	63.1	64.8	66.1	67.0	67.1	67.7	67.7	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8
≥ 400	45.1	63.1	64.8	66.1	67.0	67.1	67.7	67.7	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8
≥ 300	45.1	63.1	64.8	66.1	67.0	67.1	67.7	67.7	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8
≥ 200	45.1	63.1	64.8	66.1	67.0	67.1	67.7	67.7	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8
≥ 100	45.1	63.1	64.8	66.1	67.0	67.1	67.7	67.7	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8
≥ 0	45.1	63.1	64.8	66.1	67.0	67.1	67.7	67.7	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8

TOTAL NUMBER OF OBSERVATIONS 821

USAF ETAC FORM 5-14-3 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

120390
STATION

PHILIPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEAR

JUL
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1800-2000
HOURS (LST)

CEILING (FEET)	VISIBILITY (STATUTE MILES)															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2½	≥ 2	≥ 1½	≥ 1¼	≥ 1	≥ ¾	≥ ½	≥ ¼	≥ 1/8	≥ 1/16	≥ 0
NO CEILING	40.1	56.5	58.3	59.5	59.6	59.6	59.6	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8
≥ 20000	45.1	64.2	66.0	67.9	68.5	68.5	68.5	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8
≥ 18000	45.1	64.2	66.0	67.9	68.5	68.5	68.5	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8
≥ 16000	45.1	64.2	66.0	67.9	68.5	68.5	68.5	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8
≥ 14000	45.1	64.2	66.0	67.9	68.5	68.5	68.5	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8
≥ 12000	45.1	64.2	66.0	67.9	68.5	68.5	68.5	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8
≥ 10000	48.0	68.8	71.1	73.3	74.0	74.0	74.3	74.6	74.6	74.7	74.7	74.7	74.7	74.7	74.7	74.7
≥ 9000	48.0	68.8	71.1	73.3	74.0	74.0	74.3	74.6	74.6	74.7	74.7	74.7	74.7	74.7	74.7	74.7
≥ 8000	50.1	71.2	73.8	76.4	77.2	77.2	77.5	77.8	77.8	77.9	77.9	77.9	77.9	77.9	77.9	77.9
≥ 7000	50.1	71.2	73.8	76.4	77.2	77.2	77.5	77.8	77.8	77.9	77.9	77.9	77.9	77.9	77.9	77.9
≥ 6000	51.2	73.0	76.0	78.8	79.8	79.9	80.2	80.5	80.5	80.6	80.6	80.6	80.6	80.6	80.6	80.6
≥ 5000	52.3	74.9	78.3	81.0	82.2	82.2	83.0	83.2	83.2	83.3	83.3	83.3	83.3	83.3	83.3	83.3
≥ 4500	52.6	76.2	79.5	82.7	84.0	84.3	84.7	84.9	84.9	85.1	85.1	85.1	85.1	85.1	85.1	85.1
≥ 4000	53.5	77.5	81.0	84.3	85.8	86.2	86.5	87.2	87.2	87.3	87.4	87.4	87.4	87.4	87.4	87.4
≥ 3500	54.6	79.0	83.6	87.2	88.8	89.3	89.6	90.2	90.2	90.4	90.5	90.5	90.5	90.5	90.5	90.5
≥ 3000	55.6	81.6	85.9	89.5	91.2	91.7	92.1	92.7	92.7	92.8	93.0	93.0	93.0	93.0	93.0	93.0
≥ 2500	55.6	82.2	86.5	90.5	92.2	92.8	93.3	94.1	94.1	94.2	94.3	94.3	94.3	94.3	94.3	94.3
≥ 2000	56.4	83.2	87.7	91.6	93.3	94.0	94.4	95.3	95.3	95.4	95.6	95.6	95.6	95.6	95.6	95.6
≥ 1800	56.4	83.3	87.8	92.0	93.7	94.3	94.8	95.7	95.7	95.8	95.9	95.9	95.9	95.9	95.9	95.9
≥ 1500	56.9	84.2	88.8	93.0	94.7	95.3	95.8	96.7	96.7	96.8	96.9	96.9	96.9	96.9	96.9	96.9
≥ 1200	56.9	84.3	88.9	93.1	94.8	95.4	95.9	96.8	96.8	96.9	97.0	97.0	97.0	97.0	97.0	97.0
≥ 1000	56.9	84.3	89.0	93.3	95.1	95.7	96.2	97.0	97.0	97.2	97.3	97.3	97.3	97.3	97.3	97.3
≥ 900	56.9	84.3	89.0	93.6	95.3	95.9	96.5	97.4	97.4	97.5	97.7	97.7	97.7	97.7	97.7	97.7
≥ 800	56.9	84.3	89.0	93.7	95.4	96.0	96.7	97.5	97.5	97.7	97.8	97.8	97.8	97.8	97.8	97.8
≥ 700	56.9	84.4	89.1	93.8	95.7	96.3	96.9	97.8	97.8	97.9	98.0	98.0	98.0	98.0	98.0	98.0
≥ 600	56.9	84.4	89.3	94.1	95.9	96.5	97.2	98.0	98.0	98.1	98.3	98.3	98.3	98.3	98.3	98.3
≥ 500	57.0	84.6	89.4	94.3	96.2	96.8	97.4	98.4	98.4	98.5	98.6	98.6	98.6	98.6	98.6	98.6
≥ 400	57.0	84.6	89.4	94.7	96.8	97.4	98.0	99.0	99.0	99.1	99.2	99.2	99.2	99.2	99.2	99.2
≥ 300	57.0	84.6	89.5	94.7	96.8	97.4	98.0	99.0	99.0	99.1	99.2	99.2	99.2	99.2	99.2	99.2
≥ 200	57.0	84.6	89.5	94.7	96.8	97.4	98.0	99.0	99.0	99.1	99.2	99.2	99.2	99.2	99.2	99.2
≥ 100	57.0	84.6	89.5	94.7	96.8	97.4	98.0	99.0	99.0	99.1	99.2	99.2	99.2	99.2	99.2	99.2
≥ 0	57.0	84.6	89.5	94.7	96.8	97.4	98.0	99.0	99.0	99.1	99.2	99.2	99.2	99.2	99.2	99.2

TOTAL NUMBER OF OBSERVATIONS 810

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

12639U
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

JUL
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

2100-2300
HOURS

CEILING (FEET)	VISIBILITY (STATUTE MILES)															
	≥10	≥6	≥5	≥4	≥3	≥2½	≥2	≥1½	≥1¼	≥1	≥¾	≥½	≥¼	≥1/8	≥.	≥0
NO CEILING	40.0	61.0	63.4	65.6	66.7	67.1	67.4	67.6	67.6	68.0	68.2	68.2	68.3	68.3	68.4	68.4
≥ 20000	42.6	65.4	67.8	70.2	72.2	72.4	72.9	73.3	73.3	73.8	73.9	73.9	74.0	74.0	74.1	74.1
≥ 18000	42.6	65.5	67.9	70.4	72.3	72.7	73.1	73.4	73.4	73.9	74.0	74.0	74.1	74.1	74.3	74.3
IV 16000	42.6	65.5	67.9	70.4	72.3	72.7	73.0	73.4	73.4	73.9	74.0	74.0	74.1	74.1	74.3	74.3
IV 14000	42.6	65.6	68.0	70.5	72.4	72.8	73.2	73.5	73.5	74.0	74.1	74.1	74.3	74.3	74.4	74.4
IV 12000	43.7	66.0	69.3	71.8	73.4	74.3	74.6	75.0	75.0	75.5	75.6	75.6	75.7	75.7	75.9	75.9
IV 10000	45.5	69.6	72.2	75.2	77.4	77.8	78.7	79.0	79.0	79.5	79.6	79.6	79.8	79.8	79.9	79.9
IV 9000	45.7	69.9	72.4	75.5	77.7	78.0	78.9	79.3	79.3	79.8	79.9	79.9	80.0	80.0	80.1	80.1
IV 8000	46.6	71.2	73.9	77.7	80.0	80.4	81.2	81.6	81.6	82.1	82.2	82.2	82.3	82.3	82.4	82.4
IV 7000	47.0	71.7	74.5	78.3	80.7	81.1	82.1	82.4	82.4	82.9	83.0	83.0	83.2	83.2	83.3	83.3
IV 6000	47.4	72.0	75.4	79.3	82.1	82.4	83.4	83.9	83.9	84.4	84.5	84.5	84.6	84.6	84.8	84.8
IV 5000	48.4	74.1	77.1	81.0	84.0	84.4	85.4	85.9	85.9	86.3	86.5	86.5	86.6	86.6	86.7	86.7
IV 4500	49.4	75.9	79.0	82.9	86.0	86.3	87.3	87.8	87.8	88.3	88.4	88.4	88.5	88.5	88.7	88.7
IV 4000	49.9	76.3	79.9	83.8	87.0	87.3	88.3	88.9	88.9	89.4	89.5	89.5	89.6	89.6	89.8	89.8
IV 3500	50.2	77.0	80.5	84.5	87.7	88.0	89.1	89.8	89.8	90.2	90.4	90.4	90.5	90.5	90.6	90.6
IV 3000	50.5	77.3	81.2	85.4	88.9	89.6	90.9	91.5	91.5	92.0	92.1	92.1	92.2	92.2	92.3	92.3
IV 2500	51.4	78.3	82.4	86.6	90.1	90.9	92.1	92.7	92.7	93.2	93.3	93.3	93.4	93.4	93.5	93.5
IV 2000	51.6	78.8	83.2	87.4	91.1	91.8	93.3	93.9	93.9	94.4	94.5	94.5	94.6	94.6	94.8	94.8
IV 1800	51.8	79.0	83.4	87.7	91.5	92.2	93.7	94.3	94.3	94.8	94.9	94.9	95.0	95.0	95.1	95.1
IV 1500	52.3	79.5	84.0	88.3	92.2	92.9	94.4	95.0	95.0	95.5	95.6	95.6	95.7	95.7	95.9	95.9
IV 1200	52.6	80.0	84.5	88.8	92.7	93.4	94.9	95.5	95.5	96.0	96.1	96.1	96.2	96.2	96.3	96.3
IV 1000	52.8	80.1	84.6	88.9	92.8	93.5	95.0	95.6	95.6	96.1	96.2	96.2	96.3	96.3	96.5	96.5
IV 900	52.8	80.2	84.8	89.0	92.9	93.7	95.1	95.7	95.7	96.2	96.3	96.3	96.5	96.5	96.6	96.6
IV 800	52.6	80.4	84.9	89.1	93.0	93.8	95.2	95.9	95.9	96.3	96.5	96.5	96.6	96.6	96.7	96.7
IV 700	52.6	80.4	84.9	89.1	93.0	93.8	95.2	95.9	95.9	96.3	96.5	96.5	96.6	96.6	96.7	96.7
IV 600	52.6	80.4	84.9	89.1	93.2	93.9	95.4	96.0	96.0	96.5	96.6	96.6	96.7	96.7	96.8	96.8
IV 500	52.6	80.4	85.1	89.4	93.7	94.4	96.2	97.0	97.0	97.4	97.6	97.6	97.7	97.7	97.8	97.8
IV 400	52.6	80.4	85.1	89.5	94.0	94.8	96.6	97.4	97.4	97.9	98.0	98.0	98.2	98.2	98.3	98.3
IV 300	52.6	80.4	85.1	89.5	94.1	94.9	96.8	97.8	97.8	98.4	98.7	98.7	98.8	98.8	98.9	98.9
IV 200	52.6	80.4	85.2	89.6	94.3	95.0	97.0	98.0	98.0	98.7	98.9	98.9	99.3	99.3	99.8	99.9
IV 100	52.6	80.4	85.2	89.6	94.3	95.0	97.1	98.2	98.2	98.8	99.0	99.0	99.4	99.4	99.9	100.0
IV 0	52.6	80.4	85.2	89.6	94.3	95.0	97.1	98.2	98.2	98.8	99.0	99.0	99.4	99.4	99.9	100.0

TOTAL NUMBER OF OBSERVATIONS 820

USAF ETAC FORM 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

726390
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

JUL
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

ALL
HOURS 1-24

CEILING (FEET)	VISIBILITY (STATUTE MILES)															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1.4	≥1	≥.9	≥.8	≥.7	≥.6	≥.5	≥.4
NO CEILING ≥ 20000	37.4	55.6	58.0	59.9	61.1	61.5	62.2	62.4	62.4	62.6	62.8	62.8	62.9	62.9	63.0	63.1
IV 18000	39.7	60.3	62.8	64.9	66.5	66.9	67.7	67.9	67.9	68.2	68.4	68.4	68.5	68.5	68.5	68.7
IV 16000	39.7	60.3	62.8	64.9	66.5	66.9	67.7	67.9	67.9	68.2	68.4	68.4	68.5	68.5	68.5	68.7
IV 14000	39.9	60.5	63.0	65.1	66.7	67.1	67.9	68.2	68.2	68.4	68.6	68.6	68.7	68.7	68.8	68.9
IV 12000	40.8	61.7	64.3	66.5	68.1	68.6	69.4	69.6	69.6	69.9	70.1	70.1	70.1	70.1	70.2	70.4
IV 10000	42.3	64.4	67.2	69.6	71.3	71.7	72.7	72.9	72.9	73.2	73.4	73.4	73.5	73.5	73.6	73.7
IV 9000	42.5	64.7	67.5	69.8	71.6	72.0	72.9	73.2	73.2	73.5	73.7	73.7	73.8	73.8	73.9	74.0
IV 8000	43.9	66.8	69.7	72.3	74.1	74.6	75.5	75.9	75.9	76.2	76.4	76.4	76.5	76.5	76.6	76.7
IV 7000	44.5	67.9	71.0	73.6	75.5	76.0	76.9	77.3	77.3	77.6	77.8	77.8	77.9	77.9	78.0	78.2
IV 6000	44.8	68.7	71.8	74.6	76.6	77.1	78.1	78.5	78.5	78.8	79.0	79.0	79.1	79.1	79.2	79.4
IV 5000	45.4	70.5	73.9	76.8	78.8	79.4	80.5	80.9	80.9	81.2	81.4	81.4	81.5	81.5	81.6	81.7
IV 4500	46.8	72.3	75.7	79.0	81.2	81.8	82.9	83.3	83.3	83.7	83.9	83.9	83.9	83.9	84.0	84.2
IV 4000	47.3	73.2	76.7	80.0	82.3	82.9	84.1	84.6	84.6	84.9	85.1	85.2	85.2	85.2	85.3	85.5
IV 3500	47.8	74.3	78.1	81.4	83.9	84.5	85.7	86.2	86.2	86.6	86.8	86.8	86.9	86.9	87.0	87.1
IV 3000	48.5	75.7	79.7	83.2	85.7	86.4	87.7	88.2	88.2	88.5	88.8	88.8	88.9	88.9	89.0	89.1
IV 2500	49.2	76.8	80.9	84.5	87.2	87.9	89.2	89.7	89.7	90.1	90.4	90.4	90.5	90.5	90.6	90.8
IV 2000	49.7	77.5	81.7	85.4	88.1	88.9	90.3	90.9	90.9	91.3	91.6	91.6	91.7	91.7	91.8	91.9
IV 1800	49.8	77.8	82.1	85.9	88.7	89.4	90.9	91.5	91.5	91.9	92.2	92.2	92.3	92.3	92.4	92.5
IV 1500	50.2	78.5	82.9	86.8	89.7	90.5	92.0	92.6	92.6	93.1	93.4	93.4	93.5	93.5	93.6	93.7
IV 1200	50.5	79.1	83.6	87.5	90.5	91.3	92.8	93.5	93.5	93.9	94.2	94.2	94.3	94.3	94.4	94.6
IV 1000	50.7	79.4	84.0	88.1	91.1	91.9	93.6	94.2	94.2	94.7	95.0	95.0	95.1	95.1	95.2	95.3
IV 900	50.8	79.5	84.1	88.3	91.3	92.1	93.8	94.5	94.5	95.0	95.3	95.3	95.4	95.4	95.5	95.6
IV 800	50.9	79.8	84.4	88.6	91.6	92.5	94.2	94.9	94.9	95.4	95.7	95.7	95.8	95.8	95.9	96.0
IV 700	50.9	80.0	84.6	88.8	92.0	92.8	94.7	95.4	95.4	95.9	96.2	96.2	96.3	96.3	96.4	96.5
IV 600	50.9	80.1	84.8	89.1	92.3	93.2	95.1	95.8	95.8	96.3	96.6	96.6	96.7	96.7	96.8	97.0
IV 500	51.0	80.2	85.0	89.4	92.8	93.6	95.6	96.5	96.5	97.1	97.4	97.4	97.5	97.5	97.6	97.7
IV 400	51.0	80.3	85.1	89.6	93.1	94.0	96.1	97.1	97.1	97.8	98.1	98.1	98.2	98.2	98.3	98.5
IV 300	51.0	80.4	85.2	89.7	93.3	94.2	96.3	97.4	97.4	98.2	98.5	98.5	98.6	98.6	98.7	98.9
IV 200	51.0	80.4	85.2	89.8	93.4	94.3	96.4	97.5	97.5	98.4	98.7	98.8	98.9	98.9	99.0	99.2
IV 100	51.0	80.4	85.2	89.8	93.4	94.3	96.4	97.5	97.5	98.4	98.8	98.8	99.1	99.1	99.4	99.6
IV 0	51.0	80.4	85.2	89.8	93.4	94.3	96.4	97.5	97.5	98.4	98.8	98.8	99.1	99.1	99.5	100.0

TOTAL NUMBER OF OBSERVATIONS

6514

USAF ETAC

FORM
JUL 84

0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
A14 WEATHER SERVICE/MAL

CEILING VERSUS VISIBILITY

726390
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

AUG
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0000-0200
HOURS (LST)

CEILING (FEET)	VISIBILITY (STATUTE MILES)															
	≥10	≥6	≥5	≥4	≥3	≥2½	≥2	≥1½	≥1¼	≥1	≥¾	≥½	≥¼	≥1/16	≥.	≥0
NO CEILING	34.8	54.2	56.1	58.5	60.9	61.0	61.4	62.0	62.0	62.6	62.6	62.6	63.0	63.0	63.1	63.6
≥ 20000	35.4	56.8	58.8	61.5	64.4	64.5	65.2	66.0	66.0	66.7	66.7	66.7	67.1	67.1	67.2	67.7
IV 18000	35.4	56.8	58.8	61.5	64.4	64.5	65.2	66.0	66.0	66.7	66.7	66.7	67.1	67.1	67.2	67.7
IV 16000	35.9	56.8	58.8	61.5	64.4	64.5	65.2	66.0	66.0	66.7	66.7	66.7	67.1	67.1	67.2	67.7
IV 14000	35.9	56.9	59.0	61.8	64.6	64.7	65.5	66.2	66.2	67.0	67.0	67.0	67.3	67.3	67.5	67.9
IV 12000	36.0	57.5	59.7	62.4	65.3	65.5	66.2	67.0	67.0	67.7	67.7	67.7	68.1	68.1	68.2	68.7
IV 10000	36.9	59.0	61.6	64.6	67.7	67.8	68.6	69.3	69.3	70.0	70.0	70.0	70.4	70.4	70.5	71.0
IV 9000	37.5	59.5	62.5	65.5	68.6	68.7	69.4	70.2	70.2	70.9	70.9	70.9	71.3	71.3	71.4	71.9
IV 8000	37.6	60.1	63.2	66.2	69.3	69.4	70.2	70.9	70.9	71.7	71.7	71.7	72.0	72.0	72.2	72.6
IV 7000	38.0	60.9	64.0	67.0	70.0	70.3	71.0	71.8	71.8	72.5	72.5	72.5	72.9	72.9	73.0	73.5
IV 6000	38.2	61.6	64.7	67.7	70.8	71.0	71.8	72.5	72.5	73.3	73.3	73.3	73.6	73.6	73.8	74.3
IV 5000	38.6	62.6	65.8	69.1	72.3	72.5	73.3	74.0	74.0	74.8	74.8	74.8	75.1	75.1	75.2	75.7
IV 4500	39.4	63.6	66.8	70.2	73.5	73.8	74.5	75.2	75.2	76.0	76.0	76.0	76.4	76.4	76.5	77.0
IV 4000	39.9	64.4	67.7	71.0	74.4	74.6	75.5	76.2	76.2	77.0	77.0	77.0	77.4	77.4	77.5	78.0
IV 3500	41.0	66.3	69.9	73.5	77.1	77.4	78.3	79.1	79.1	79.8	79.8	79.8	80.2	80.2	80.3	80.8
IV 3000	42.2	67.8	71.5	75.1	78.8	79.2	80.6	81.3	81.3	82.1	82.1	82.1	82.4	82.4	82.5	83.0
IV 2500	43.1	69.8	73.8	77.6	81.3	81.7	83.0	83.8	83.8	84.5	84.5	84.5	84.9	84.9	85.0	85.5
IV 2000	43.9	72.2	76.2	80.2	83.9	84.3	86.1	86.9	86.9	87.9	87.9	87.9	88.2	88.2	88.4	88.9
IV 1800	44.4	72.5	76.5	80.4	84.2	84.7	86.5	87.3	87.3	88.2	88.2	88.2	88.6	88.6	88.7	89.2
IV 1500	44.3	73.1	77.6	81.8	85.6	86.1	88.2	89.1	89.1	90.1	90.1	90.1	90.5	90.5	90.7	91.2
IV 1200	44.7	73.8	78.3	82.5	86.4	86.9	89.0	89.9	89.9	91.0	91.0	91.0	91.3	91.3	91.6	92.1
IV 1000	44.8	74.1	78.7	83.0	86.9	87.4	89.6	90.5	90.5	91.6	91.6	91.6	92.0	92.0	92.2	92.7
IV 900	44.8	74.3	79.0	83.5	87.1	87.6	90.0	90.8	90.8	92.0	92.0	92.0	92.3	92.3	92.6	93.1
IV 800	44.4	74.6	79.3	83.7	87.6	88.1	90.7	91.6	91.6	92.7	92.7	92.7	93.1	93.1	93.3	93.8
IV 700	45.3	75.5	79.7	84.8	88.1	88.6	91.2	92.2	92.2	93.3	93.3	93.3	93.8	93.8	94.1	94.6
IV 600	45.3	75.4	80.1	84.5	88.9	89.5	92.1	93.1	93.1	94.2	94.2	94.2	94.7	94.7	94.9	95.4
IV 500	45.3	75.4	80.3	85.0	89.4	90.0	92.6	93.6	93.6	94.7	94.7	94.7	95.2	95.2	95.4	95.9
IV 400	45.3	75.4	80.3	85.1	89.7	90.3	92.9	94.1	94.1	95.2	95.2	95.2	95.7	95.7	95.9	96.4
IV 300	45.3	75.4	80.3	85.3	89.9	90.5	93.3	94.4	94.4	95.5	95.5	95.5	96.0	96.0	96.3	96.8
IV 200	45.3	75.5	80.4	85.4	90.0	90.6	93.4	94.7	94.7	95.8	95.8	95.8	96.7	96.7	97.5	98.4
IV 100	45.3	75.5	80.4	85.4	90.0	90.6	93.4	94.7	94.7	95.8	95.8	95.8	96.7	96.7	97.9	98.3
IV 0	45.3	75.5	80.4	85.4	90.0	90.6	93.4	94.7	94.8	96.5	96.7	96.8	97.9	97.9	98.5	100.0

TOTAL NUMBER OF OBSERVATIONS 808

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAG

CEILING VERSUS VISIBILITY

72639U
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

AUG
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0300-0500
HOURS (LT)

CEILING (FEET)	VISIBILITY (STATUTE MILES)															
	≥10	≥6	≥5	≥4	≥3	≥2½	≥2	≥1½	≥1¼	≥1	≥¾	≥½	≥¼	≥1/16	≥.	≥0
NO CEILING	29.9	47.5	49.4	52.6	55.7	56.0	56.5	56.6	56.9	57.6	58.0	58.0	58.2	58.5	59.2	60.0
≥20000	51.2	50.2	52.3	55.5	59.2	59.6	60.3	60.5	60.8	61.6	62.0	62.0	62.3	62.5	63.4	64.3
IV 18000	51.2	50.2	52.3	55.5	59.2	59.6	60.3	60.5	60.8	61.6	62.0	62.0	62.3	62.5	63.4	64.3
IV 16000	51.2	50.2	52.3	55.5	59.2	59.6	60.3	60.5	60.8	61.6	62.0	62.0	62.3	62.5	63.4	64.3
IV 14000	51.2	50.2	52.3	55.5	59.2	59.6	60.3	60.5	60.8	61.6	62.0	62.0	62.3	62.5	63.4	64.3
IV 12000	31.3	50.3	52.5	55.6	59.4	59.7	60.4	60.6	60.9	61.8	62.1	62.1	62.4	62.6	63.5	64.4
IV 10000	31.7	50.8	53.0	56.1	59.9	60.3	60.9	61.1	61.4	62.3	62.6	62.6	62.9	63.1	64.0	64.9
IV 9000	32.3	52.7	55.0	58.5	62.3	62.6	63.3	63.5	63.8	64.7	65.0	65.0	65.3	65.5	66.4	67.3
IV 8000	32.8	53.5	55.7	59.2	63.0	63.4	64.0	64.3	64.5	65.4	65.8	65.8	66.0	66.3	67.2	68.1
IV 7000	33.6	54.2	56.5	60.0	63.8	64.2	64.8	65.0	65.3	66.2	66.5	66.5	66.8	67.0	67.9	68.8
IV 6000	34.1	54.7	57.0	60.5	64.3	64.7	65.4	65.7	65.9	66.8	67.2	67.2	67.4	67.7	68.6	69.4
IV 5000	34.3	55.8	58.9	62.4	66.2	66.5	67.3	67.5	67.8	68.7	69.1	69.1	69.3	69.6	70.4	71.3
IV 4500	35.0	56.7	59.7	63.3	67.0	67.4	68.2	68.4	68.7	69.6	69.9	69.9	70.2	70.4	71.3	72.2
IV 4000	35.7	58.0	61.1	64.9	68.7	69.1	69.8	70.1	70.3	71.3	71.7	71.7	71.9	72.2	73.1	74.0
IV 3500	36.2	58.7	61.9	65.8	69.6	69.9	70.8	71.3	71.6	72.6	73.0	73.0	73.2	73.5	74.3	75.2
IV 3000	37.2	60.4	63.5	67.4	71.2	71.6	72.5	73.0	73.2	74.2	74.7	74.7	75.0	75.2	76.1	77.0
IV 2500	38.7	62.3	65.4	69.3	73.2	73.6	74.5	75.0	75.2	76.2	76.7	76.7	77.0	77.2	78.1	79.0
IV 2000	40.1	64.8	67.9	72.1	76.5	76.9	77.9	78.5	78.7	79.7	80.3	80.3	80.5	80.8	81.6	82.5
IV 1800	40.5	65.9	69.2	73.5	78.4	78.9	79.9	80.5	80.8	82.1	82.6	82.6	82.9	83.1	84.0	84.9
IV 1500	40.6	66.5	69.8	74.1	79.0	79.5	80.5	81.1	81.4	82.8	83.3	83.3	83.5	83.8	84.7	85.5
IV 1200	40.9	67.5	70.9	75.3	80.8	81.4	82.6	83.3	83.6	85.0	85.5	85.5	85.8	86.0	86.9	87.8
IV 1000	41.3	68.4	71.8	76.4	81.8	82.4	83.8	84.4	84.9	86.3	86.8	86.8	87.0	87.3	88.3	89.2
IV 900	41.5	69.2	72.6	77.1	82.5	83.3	84.8	85.4	85.9	87.3	87.8	87.8	88.1	88.3	89.3	90.2
IV 800	41.5	69.3	73.1	77.6	83.0	83.8	85.3	85.9	86.4	87.8	88.3	88.3	88.6	88.8	89.8	90.7
IV 700	41.8	69.9	74.0	78.6	84.4	85.3	87.2	87.8	88.3	89.7	90.2	90.2	90.4	90.7	91.7	92.6
IV 600	42.1	70.8	74.8	79.5	85.3	86.2	88.1	88.8	89.3	90.8	91.3	91.3	91.6	91.8	92.8	93.7
IV 500	42.1	71.1	75.1	79.7	85.7	86.5	88.8	89.6	90.1	91.7	92.2	92.2	92.5	92.7	93.7	94.6
IV 400	42.1	71.1	75.2	80.0	86.0	86.9	89.3	90.1	90.6	92.2	92.7	92.7	93.0	93.2	94.2	95.1
IV 300	42.1	71.3	75.5	80.3	86.3	87.2	89.7	90.4	91.1	93.1	93.6	93.7	94.0	94.2	95.2	96.1
IV 200	42.1	71.3	75.5	80.3	86.4	87.3	89.8	90.6	91.3	93.3	93.8	94.0	94.2	94.5	95.5	96.4
IV 100	42.1	71.3	75.7	80.5	86.7	87.7	90.2	91.1	91.8	94.1	94.7	94.8	95.3	95.6	96.7	97.6
IV 0	42.1	71.3	75.7	80.5	86.8	87.8	90.3	91.2	91.9	94.2	94.8	95.0	95.5	96.1	97.4	98.6

TOTAL NUMBER OF OBSERVATIONS

795

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

120390
STATION

PHILIPS-COLLINS/ALPENA MI
STATION NAME

13-81
YEARS

AUG
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0600-0800
HOURS LST

CEILING FEET	VISIBILITY STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1	≥.5	≥.25	≥.1	≥.05	≥.025	≥.01	≥.005
NO CEILING ≥ 20000	26.2	41.4	43.2	45.7	48.9	50.4	51.0	52.0	52.0	53.3	53.7	53.7	53.8	54.1	54.6	56.2
IV 18000	28.2	44.4	46.5	49.4	53.1	55.1	56.1	57.1	57.2	58.6	58.9	58.9	59.1	59.4	59.9	62.0
IV 16000	28.3	44.5	46.7	49.5	53.2	55.2	56.2	57.2	57.3	58.7	59.1	59.1	59.2	59.6	60.0	62.2
IV 14000	28.4	44.7	46.8	49.8	53.5	55.5	56.5	57.4	57.6	58.9	59.3	59.3	59.4	59.8	60.3	62.4
IV 12000	28.8	45.5	47.6	50.6	54.3	56.3	57.3	58.3	58.4	59.8	60.2	60.2	60.3	60.7	61.2	63.3
IV 10000	30.1	47.6	49.9	53.2	57.1	59.2	60.3	61.3	61.4	62.9	63.3	63.3	63.4	63.8	64.3	66.5
IV 9000	30.1	47.9	50.1	53.5	57.3	59.4	60.5	61.5	61.7	63.2	63.5	63.5	63.6	64.0	64.5	66.7
IV 8000	32.1	50.7	53.1	56.6	60.4	62.5	63.8	64.8	64.9	66.4	66.7	66.7	66.9	67.2	67.7	70.0
IV 7000	32.3	51.2	53.6	57.1	60.9	63.0	64.3	65.3	65.4	66.9	67.2	67.2	67.4	67.7	68.2	70.5
IV 6000	33.1	52.6	55.0	58.4	62.3	64.4	65.6	66.6	66.7	68.2	68.6	68.6	68.7	69.1	69.6	71.8
IV 5000	33.5	53.5	55.8	59.4	63.8	65.9	67.1	68.1	68.2	69.9	70.2	70.3	70.5	70.8	71.3	73.6
IV 4500	34.2	54.6	57.1	60.7	65.1	67.5	68.9	69.9	70.0	71.6	72.0	72.1	72.2	72.6	73.1	75.3
IV 4000	34.6	55.1	57.6	61.2	65.6	68.0	69.4	70.3	70.5	72.1	72.5	72.6	72.7	73.1	73.6	75.8
IV 3500	35.2	56.3	58.8	62.4	66.9	69.2	70.6	71.7	71.8	73.6	73.9	74.1	74.3	74.7	75.2	77.4
IV 3000	36.1	57.7	60.4	64.4	68.9	71.3	72.8	73.9	74.1	75.8	76.2	76.3	76.5	76.9	77.3	79.6
IV 2500	36.7	58.9	61.8	65.9	70.6	73.3	74.9	76.1	76.2	77.9	78.3	78.5	78.8	79.2	79.8	82.0
IV 2000	37.6	60.7	63.8	67.9	72.6	75.3	76.9	78.3	78.4	80.4	80.8	81.0	81.3	81.6	82.3	84.5
IV 1800	37.6	60.7	63.8	67.9	72.7	75.4	77.0	78.4	78.5	80.6	81.0	81.3	81.5	81.9	82.5	84.7
IV 1500	38.7	62.5	65.6	69.7	74.6	77.3	79.0	80.4	80.5	82.6	83.0	83.3	83.5	83.9	84.5	86.7
IV 1200	39.2	63.6	66.9	71.1	76.1	78.9	80.6	82.0	82.1	84.4	84.9	85.1	85.5	85.9	86.5	88.7
IV 1000	39.2	63.9	67.4	71.7	76.7	79.7	81.5	83.1	83.3	85.6	86.1	86.4	86.7	87.1	87.7	90.0
IV 900	39.5	64.6	68.4	72.7	77.8	80.8	82.6	84.2	84.4	86.7	87.2	87.5	87.8	88.2	88.8	91.1
IV 800	40.0	65.3	69.2	73.6	78.9	82.0	83.9	85.6	85.7	88.1	88.6	88.8	89.2	89.6	90.2	92.4
IV 700	40.1	65.9	70.0	74.3	79.7	82.8	84.6	86.4	86.5	89.0	89.5	89.7	90.1	90.4	91.1	93.3
IV 600	40.1	66.0	70.5	74.8	80.1	83.6	85.6	87.3	87.5	90.0	90.4	90.7	91.1	91.4	92.1	94.3
IV 500	40.1	66.3	70.8	75.2	80.9	84.6	87.0	88.8	89.1	91.6	92.3	92.6	92.9	93.3	93.9	96.2
IV 400	40.1	66.3	70.8	75.3	81.0	84.9	87.3	89.2	89.5	91.9	92.7	92.9	93.3	93.7	94.3	96.5
IV 300	40.1	66.3	70.8	75.6	81.4	85.2	87.7	89.7	90.0	92.4	93.8	94.0	94.4	94.8	95.4	97.6
IV 200	40.1	66.3	70.8	75.6	81.4	85.2	87.8	90.1	90.3	92.9	94.3	94.7	95.0	95.7	96.4	98.9
IV 100	40.1	66.3	70.8	75.6	81.4	85.2	87.8	90.1	90.3	92.9	94.3	94.7	95.0	95.8	97.0	99.8
IV 0	40.1	66.3	70.8	75.6	81.4	85.2	87.8	90.1	90.3	92.9	94.3	94.7	95.0	95.8	97.0	100.0

TOTAL NUMBER OF OBSERVATIONS 806

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

1/63971
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

AUG
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0900-1100
HOURS LST

CEILING FEET	VISIBILITY STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1	≥1	≥1	≥1	≥1	≥1	≥1	≥1
NO CEILING	23.5	46.5	48.2	50.2	51.1	51.3	51.4	51.4	51.4	51.4	51.5	51.5	51.5	51.5	51.5	51.5
≥ 20000	30.7	49.8	51.7	54.0	55.1	55.4	55.6	55.8	55.8	55.8	55.9	55.9	55.9	55.9	55.9	55.9
≥ 18000	33.9	49.9	51.8	54.2	55.3	55.5	55.8	55.9	55.9	56.0	56.0	56.0	56.0	56.0	56.0	56.0
≥ 16000	30.9	49.9	51.8	54.2	55.3	55.5	55.8	55.9	55.9	56.0	56.0	56.0	56.0	56.0	56.0	56.0
≥ 14000	30.9	49.9	51.8	54.4	55.5	55.8	56.1	56.3	56.3	56.4	56.4	56.4	56.4	56.4	56.4	56.4
≥ 12000	31.5	51.2	53.0	55.6	56.9	57.1	57.6	57.7	57.7	57.9	57.9	57.9	57.9	57.9	57.9	57.9
≥ 10000	33.2	54.5	56.6	59.4	61.1	61.6	62.3	62.5	62.5	62.6	62.7	62.7	62.7	62.7	62.7	62.7
≥ 9000	33.6	55.0	57.1	60.0	62.0	62.5	63.2	63.3	63.3	63.4	63.6	63.6	63.6	63.6	63.6	63.6
≥ 8000	35.9	58.1	60.8	63.8	65.8	66.3	67.0	67.2	67.2	67.3	67.5	67.5	67.5	67.5	67.5	67.5
≥ 7000	36.7	59.0	61.8	64.9	66.9	67.4	68.2	68.4	68.4	68.5	68.8	68.8	68.8	68.8	68.8	68.8
≥ 6000	37.2	59.6	62.5	65.6	67.5	68.0	68.8	69.0	69.0	69.1	69.4	69.4	69.4	69.4	69.4	69.4
≥ 5000	37.5	60.5	63.3	66.4	68.6	69.1	69.9	70.1	70.1	70.3	70.5	70.5	70.5	70.5	70.5	70.5
≥ 4500	37.8	61.0	63.8	66.9	69.3	69.8	70.6	70.9	70.9	71.0	71.3	71.3	71.3	71.3	71.3	71.3
≥ 4000	38.3	61.7	64.6	67.7	70.0	70.5	71.4	71.9	71.9	72.0	72.2	72.2	72.2	72.2	72.2	72.2
≥ 3500	39.3	62.9	65.8	69.0	71.4	72.1	73.0	73.5	73.5	73.6	73.9	73.9	73.9	73.9	73.9	73.9
≥ 3000	40.0	64.2	67.3	70.6	73.2	74.0	75.0	75.6	75.6	75.7	76.0	76.0	76.0	76.0	76.0	76.0
≥ 2500	41.1	66.3	69.4	72.9	75.6	76.3	77.3	77.9	77.9	78.1	78.3	78.3	78.3	78.3	78.3	78.3
≥ 2000	43.0	69.6	73.1	77.0	79.7	80.5	81.5	82.2	82.2	82.3	82.5	82.5	82.5	82.5	82.5	82.5
≥ 1800	43.0	70.1	73.6	77.4	80.2	81.0	82.2	82.8	82.8	82.9	83.1	83.1	83.1	83.1	83.1	83.1
≥ 1500	44.4	73.4	77.0	81.3	84.1	85.0	86.4	87.0	87.0	87.1	87.4	87.4	87.4	87.4	87.4	87.4
≥ 1200	45.2	75.5	79.3	83.8	87.0	88.1	89.5	90.1	90.1	90.2	90.5	90.5	90.5	90.5	90.5	90.5
≥ 1000	45.7	77.2	81.0	85.5	88.8	90.0	91.4	92.2	92.3	92.4	92.7	92.7	92.7	92.7	92.7	92.7
≥ 900	45.7	77.3	81.2	85.6	89.1	90.2	91.7	92.7	92.8	92.9	93.2	93.2	93.2	93.2	93.2	93.2
≥ 800	46.3	78.4	82.3	86.7	90.5	91.6	93.2	94.3	94.4	94.5	94.8	94.8	94.8	94.8	94.8	94.8
≥ 700	46.5	78.8	82.7	87.1	91.0	92.4	94.1	95.3	95.4	95.5	95.8	95.8	95.8	95.8	95.8	95.8
≥ 600	46.5	79.1	83.0	87.5	91.7	93.2	94.8	96.0	96.2	96.4	96.7	96.7	96.7	96.7	96.7	96.7
≥ 500	46.5	79.1	83.0	87.6	92.3	93.8	95.4	96.7	96.8	97.3	97.5	97.5	97.5	97.5	97.5	97.5
≥ 400	46.5	79.1	83.0	87.7	92.4	94.1	95.7	97.4	97.5	98.1	98.5	98.5	98.5	98.5	98.5	98.5
≥ 300	46.5	79.1	83.0	87.7	92.4	94.1	96.0	97.9	98.0	98.6	99.0	99.0	99.0	99.0	99.0	99.0
≥ 200	46.5	79.1	83.0	87.7	92.4	94.1	96.0	97.9	98.1	99.0	99.5	99.6	99.6	99.6	99.6	99.6
≥ 100	46.5	79.1	83.0	87.7	92.4	94.1	96.0	97.9	98.1	99.0	99.5	99.6	99.6	99.6	99.6	99.6
≥ 0	46.5	79.1	83.0	87.7	92.4	94.1	96.0	97.9	98.1	99.0	99.5	99.6	99.6	99.6	99.6	99.6

TOTAL NUMBER OF OBSERVATIONS 807

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

1639 PHELPS-COLLINS/ALPENA MI

73-91

AUG

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1200-1400

CEILING FEET	VISIBILITY STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1.25	≥ 1	≥ .75	≥ .5	≥ .25	≥ .16	≥ .1	≥ 0
NO CEILING	50.0	48.0	44.0	51.1	51.4	51.5	51.7	51.7	51.7	51.7	51.7	51.7	51.7	51.7	51.7	51.7
≥ 20000	54.4	55.3	56.8	58.2	58.6	58.7	58.9	59.0	59.0	59.0	59.0	59.0	59.0	59.0	59.0	59.0
≥ 18000	34.9	55.3	56.8	58.2	58.6	58.7	58.9	59.0	59.0	59.0	59.0	59.0	59.0	59.0	59.0	59.0
≥ 6000	34.9	55.3	56.8	58.2	58.6	58.7	58.9	59.0	59.0	59.0	59.0	59.0	59.0	59.0	59.0	59.0
≥ 4000	35.3	55.8	57.6	59.2	59.6	59.7	59.9	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
≥ 12000	35.8	56.9	58.7	60.3	60.7	61.0	61.2	61.3	61.3	61.3	61.3	61.3	61.3	61.3	61.3	61.3
≥ 10000	36.8	58.0	60.8	62.1	63.1	63.4	64.1	64.2	64.2	64.2	64.2	64.2	64.2	64.2	64.2	64.2
≥ 9000	37.3	59.4	61.7	63.6	63.9	64.3	64.9	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1
≥ 8000	58.9	61.2	63.6	65.4	65.9	66.5	67.2	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3
≥ 7000	39.7	62.1	64.6	66.4	67.0	67.7	68.3	68.4	68.4	68.4	68.4	68.4	68.4	68.4	68.4	68.4
≥ 6000	39.9	62.6	65.1	66.9	67.5	68.2	68.8	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9
≥ 5000	40.6	63.5	65.8	67.4	68.5	69.1	69.8	69.9	69.9	69.9	69.9	69.9	69.9	69.9	69.9	69.9
≥ 4500	40.9	64.1	66.5	68.6	69.3	69.9	70.5	70.6	70.6	70.6	70.6	70.6	70.6	70.6	70.6	70.6
≥ 4000	41.8	65.7	68.2	70.4	71.0	71.7	72.4	72.5	72.5	72.5	72.5	72.5	72.5	72.5	72.5	72.5
≥ 3500	43.2	67.5	71.0	72.2	72.9	73.6	74.2	74.3	74.3	74.3	74.3	74.3	74.3	74.3	74.3	74.3
≥ 3000	45.1	71.0	73.6	75.8	76.7	77.4	78.2	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3
≥ 2500	47.7	75.3	78.1	80.4	81.3	82.0	82.8	82.9	82.9	82.9	82.9	82.9	82.9	82.9	82.9	82.9
≥ 2000	48.8	77.8	80.8	83.6	84.9	85.6	86.4	86.5	86.5	86.5	86.5	86.5	86.5	86.5	86.5	86.5
≥ 1800	49.2	79.1	82.0	85.4	86.6	87.4	88.1	88.2	88.2	88.2	88.2	88.2	88.2	88.2	88.2	88.2
≥ 1500	49.9	80.8	83.9	87.9	89.3	90.5	91.2	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4
≥ 1200	50.6	81.9	85.1	89.3	91.2	92.3	93.4	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9
≥ 1000	50.9	82.8	86.4	90.6	92.4	93.6	94.7	95.2	95.2	95.2	95.2	95.2	95.2	95.2	95.2	95.2
≥ 900	50.9	82.8	86.4	90.6	92.4	93.6	94.7	95.2	95.2	95.2	95.2	95.2	95.2	95.2	95.2	95.2
≥ 800	51.4	83.4	87.0	91.2	93.4	94.5	95.8	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3
≥ 700	51.4	83.4	87.0	91.3	93.7	94.8	96.0	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5
≥ 600	51.4	83.4	87.2	91.9	94.5	95.7	97.0	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8
≥ 500	51.4	83.6	87.5	92.2	95.0	96.2	97.5	98.3	98.3	98.4	98.6	98.6	98.6	98.6	98.6	98.6
≥ 400	51.4	83.8	87.9	92.6	95.5	96.7	98.0	98.9	98.9	99.0	99.3	99.3	99.4	99.4	99.4	99.4
≥ 300	51.4	83.8	87.9	92.6	95.5	96.7	98.0	98.9	98.9	99.5	99.9	99.9	100.0	100.0	100.0	100.0
≥ 200	51.4	83.8	87.9	92.6	95.5	96.7	98.0	98.9	98.9	99.5	99.9	99.9	100.0	100.0	100.0	100.0
≥ 100	51.4	83.8	87.9	92.6	95.5	96.7	98.0	98.9	98.9	99.5	99.9	99.9	100.0	100.0	100.0	100.0
≥ 0	51.4	83.8	87.9	92.6	95.5	96.7	98.0	98.9	98.9	99.5	99.9	99.9	100.0	100.0	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 807

USAF ETAC FORM 10-64 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAL

CEILING VERSUS VISIBILITY

12639
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

AUG
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1500-1700
HOURS

CEILING FEET	VISIBILITY STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1.4	≥1	≥.5	≥.4	≥.3	≥.25	≥.2	≥.1
NO CEILING	52.2	50.9	52.2	53.4	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9
≥ 20000	55.3	59.5	61.8	63.6	64.1	64.4	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5
≥ 18000	38.3	59.5	61.8	63.6	64.1	64.4	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5
≥ 16000	38.3	59.5	61.8	63.6	64.1	64.4	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5
≥ 14000	38.8	60.1	62.5	64.4	64.9	65.1	65.2	65.2	65.2	65.2	65.2	65.2	65.2	65.2	65.2	65.2
≥ 12000	39.7	61.2	64.0	66.0	66.5	66.7	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2
≥ 10000	40.3	63.1	66.0	67.9	68.4	68.7	69.3	69.3	69.3	69.4	69.4	69.4	69.4	69.4	69.4	69.4
≥ 9000	40.7	63.5	66.5	68.4	68.9	69.2	69.8	69.8	69.8	69.9	69.9	69.9	69.9	69.9	69.9	69.9
≥ 8000	42.0	65.6	68.6	70.6	71.1	71.4	72.0	72.0	72.0	72.1	72.1	72.1	72.1	72.1	72.1	72.1
≥ 7000	42.8	67.2	70.3	72.5	73.2	73.5	74.1	74.1	74.1	74.2	74.2	74.2	74.2	74.2	74.2	74.2
≥ 6000	42.8	67.8	70.9	73.1	73.8	74.1	74.7	74.7	74.7	74.8	74.8	74.8	74.8	74.8	74.8	74.8
≥ 5000	43.2	68.7	71.7	74.0	74.7	74.9	75.6	75.6	75.6	75.7	75.7	75.7	75.7	75.7	75.7	75.7
≥ 4500	44.3	69.9	73.0	75.2	76.0	76.3	76.9	76.9	76.9	77.0	77.0	77.0	77.0	77.0	77.0	77.0
≥ 4000	45.5	71.5	74.8	77.0	77.9	78.3	78.9	78.9	78.9	79.0	79.0	79.0	79.0	79.0	79.0	79.0
≥ 3500	46.7	73.1	76.8	79.0	80.0	80.8	81.4	81.4	81.4	81.6	81.6	81.6	81.6	81.6	81.6	81.6
≥ 3000	48.5	75.7	79.4	81.9	82.9	84.2	84.8	84.8	84.8	84.9	84.9	84.9	84.9	84.9	84.9	84.9
≥ 2500	49.9	77.6	81.3	84.3	85.3	86.5	87.1	87.1	87.1	87.2	87.2	87.2	87.2	87.2	87.2	87.2
≥ 2000	50.5	79.5	83.3	86.2	87.5	88.8	89.4	89.6	89.7	89.8	89.8	89.8	89.8	89.8	89.8	89.8
≥ 1800	50.9	80.1	84.0	87.1	88.3	89.8	90.4	90.7	90.8	90.9	90.9	90.9	90.9	90.9	90.9	90.9
≥ 1500	52.2	81.9	86.0	89.2	90.4	91.9	92.6	92.9	93.0	93.1	93.1	93.1	93.1	93.1	93.1	93.1
≥ 1200	52.6	82.4	86.6	89.8	91.2	92.8	93.5	93.7	93.9	94.0	94.0	94.0	94.0	94.0	94.0	94.0
≥ 1000	52.9	83.4	87.7	90.9	92.4	94.1	94.8	95.2	95.3	95.5	95.5	95.5	95.5	95.5	95.5	95.5
≥ 900	52.9	83.4	87.7	91.0	92.5	94.2	95.1	95.5	95.6	95.7	95.7	95.7	95.7	95.7	95.7	95.7
≥ 800	52.9	83.4	87.7	91.2	92.6	94.3	95.3	95.7	95.8	95.9	95.9	95.9	95.9	95.9	95.9	95.9
≥ 700	52.9	83.7	88.0	91.3	92.9	94.6	95.8	96.3	96.4	96.6	96.6	96.6	96.6	96.6	96.6	96.6
≥ 600	52.9	83.7	88.0	91.3	92.9	94.7	96.1	96.6	96.7	96.9	96.9	96.9	96.9	96.9	96.9	96.9
≥ 500	52.9	83.8	88.1	91.5	93.4	95.3	96.7	97.5	97.7	97.9	97.9	97.9	97.9	97.9	97.9	97.9
≥ 400	52.9	83.9	88.3	91.9	94.1	96.2	97.9	98.9	99.0	99.4	99.4	99.4	99.4	99.5	99.5	99.5
≥ 300	52.9	83.9	88.3	91.9	94.3	96.6	98.3	99.3	99.4	99.8	99.8	99.8	99.8	99.9	99.9	99.9
≥ 200	52.9	83.9	88.3	91.9	94.3	96.6	98.3	99.3	99.4	99.8	99.8	99.8	99.8	100.0	100.0	100.0
≥ 100	52.9	83.9	88.3	91.9	94.3	96.6	98.3	99.3	99.4	99.8	99.8	99.8	99.8	100.0	100.0	100.0
≥ 0	52.9	83.9	88.3	91.9	94.3	96.6	98.3	99.3	99.4	99.8	99.8	99.8	99.8	100.0	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 814

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAL

CEILING VERSUS VISIBILITY

126390
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEAR

AUG
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1800-2000
HOURS

CEILING FEET	VISIBILITY: STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1	≥ .5	≥ .3	≥ .2	≥ .1	≥ .05	≥ .03	≥ 0
NO CEILING	36.4	54.6	56.0	57.4	58.3	58.5	59.0	59.3	59.3	59.5	59.5	59.5	59.5	59.5	59.5	59.5
≥ 20000	40.0	62.1	64.6	66.4	67.4	67.7	68.3	68.6	68.6	68.9	68.9	68.9	69.0	69.0	69.0	69.0
IV 18000	40.0	62.2	64.7	66.5	67.5	67.8	68.4	68.8	68.8	69.0	69.0	69.0	69.1	69.1	69.1	69.1
IV 16000	40.0	62.2	64.7	66.5	67.5	67.8	68.4	68.8	68.8	69.0	69.0	69.0	69.1	69.1	69.1	69.1
IV 14000	40.4	62.6	65.1	66.9	67.9	68.1	68.8	69.1	69.1	69.4	69.4	69.4	69.5	69.5	69.5	69.5
IV 12000	40.5	63.3	66.0	67.9	69.3	69.5	70.1	70.5	70.5	70.7	70.7	70.7	70.9	70.9	70.9	70.9
IV 10000	41.1	64.4	67.5	69.5	70.9	71.4	72.0	72.3	72.3	72.6	72.6	72.6	72.7	72.7	72.7	72.7
IV 9000	41.2	64.6	67.8	69.8	71.1	71.6	72.2	72.6	72.6	72.8	72.8	72.8	73.0	73.0	73.0	73.0
IV 8000	42.5	66.2	69.6	71.9	73.3	74.0	74.6	74.9	74.9	75.2	75.2	75.2	75.3	75.3	75.3	75.3
IV 7000	43.3	67.3	70.7	73.0	74.4	75.1	75.7	76.0	76.0	76.3	76.3	76.3	76.4	76.4	76.4	76.4
IV 6000	44.0	68.3	71.9	74.1	75.6	76.3	76.9	77.3	77.3	77.5	77.5	77.5	77.7	77.7	77.7	77.7
IV 5000	44.6	69.6	73.2	75.6	77.2	77.9	78.5	78.9	78.9	79.1	79.1	79.1	79.3	79.3	79.3	79.3
IV 4500	45.2	70.6	74.4	76.8	78.6	79.5	80.1	80.5	80.5	80.7	80.7	80.7	80.9	80.9	80.9	80.9
IV 4000	45.8	71.9	75.7	78.1	80.1	81.0	81.9	82.2	82.2	82.5	82.5	82.5	82.6	82.6	82.6	82.6
IV 3500	46.3	73.1	77.3	79.8	81.9	82.7	83.6	84.1	84.1	84.3	84.3	84.3	84.4	84.4	84.4	84.4
IV 3000	47.8	74.8	79.4	82.3	84.8	85.9	86.8	87.3	87.3	87.5	87.5	87.5	87.7	87.7	87.7	87.7
IV 2500	48.1	75.7	80.4	83.6	86.3	87.7	88.8	89.3	89.3	89.8	89.8	89.8	89.9	89.9	89.9	89.9
IV 2000	49.1	77.5	82.2	85.7	88.4	90.0	91.2	91.9	91.9	92.3	92.3	92.3	92.5	92.5	92.5	92.5
IV 1800	49.4	77.9	82.6	86.0	88.8	90.4	91.6	92.2	92.2	92.7	92.7	92.7	92.8	92.8	92.8	92.8
IV 1500	49.6	78.4	83.2	86.7	89.4	91.0	92.2	92.8	92.8	93.3	93.3	93.3	93.5	93.5	93.5	93.5
IV 1200	49.6	78.6	83.5	86.9	89.6	91.4	92.6	93.3	93.3	93.8	93.8	93.8	94.0	94.1	94.1	94.1
IV 1000	49.9	79.3	84.2	87.7	90.5	92.2	93.6	94.3	94.3	94.9	94.9	94.9	95.1	95.2	95.2	95.3
IV 900	50.1	79.8	84.7	88.4	91.2	93.0	94.3	95.1	95.1	95.7	95.7	95.7	95.9	95.9	96.0	96.0
IV 800	50.2	79.9	85.2	88.9	91.7	93.5	94.8	95.6	95.6	96.2	96.2	96.2	96.4	96.4	96.5	96.5
IV 700	50.2	79.9	85.2	88.9	91.7	93.5	94.8	95.6	95.6	96.2	96.2	96.2	96.4	96.4	96.5	96.5
IV 600	50.2	80.4	85.3	89.4	92.0	93.8	95.4	96.2	96.2	96.8	96.8	96.8	96.9	97.0	97.2	97.2
IV 500	50.4	80.1	85.4	89.3	92.3	94.2	95.8	96.5	96.5	97.3	97.3	97.3	97.4	97.7	97.7	97.8
IV 400	50.4	80.1	85.4	89.4	93.1	94.9	96.7	97.7	97.7	98.4	98.4	98.4	98.6	99.0	99.0	99.1
IV 300	50.4	80.1	85.4	89.4	93.1	94.9	96.7	97.7	97.7	98.5	98.6	98.6	98.9	99.5	99.5	99.6
IV 200	50.4	80.1	85.4	89.4	93.1	94.9	96.7	97.7	97.7	98.6	99.0	99.3	99.9	99.9	100.0	100.0
IV 100	50.4	80.1	85.4	89.4	93.1	94.9	96.7	97.7	97.7	98.6	99.0	99.3	99.9	99.9	100.0	100.0
IV 0	50.4	80.1	85.4	89.4	93.1	94.9	96.7	97.7	97.7	98.6	99.0	99.3	99.9	99.9	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 810

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AF WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

1/0390
STATION

PHILIPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

AUG
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

2100-2300
HOURS

CEILING FEET	VISIBILITY, STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1	≥ .5	≥ .3	≥ .25	≥ .2	≥ .15	≥ .1	≥ 0
NO CEILING	35.6	56.0	58.6	61.2	62.5	62.5	63.5	64.0	64.0	64.4	64.4	64.4	64.5	64.5	64.6	64.9
≥ 20000	37.2	60.1	63.3	66.4	68.4	68.4	69.5	70.0	70.0	70.3	70.3	70.3	70.5	70.5	70.6	70.8
IV 18000	37.2	60.1	63.3	66.4	68.4	68.4	69.5	70.0	70.0	70.3	70.3	70.3	70.5	70.5	70.6	70.8
IV 16000	37.2	60.1	63.3	66.4	68.4	68.4	69.5	70.0	70.0	70.3	70.3	70.3	70.5	70.5	70.6	70.8
IV 14000	37.2	60.2	63.4	66.5	68.5	68.5	69.6	70.1	70.1	70.5	70.5	70.5	70.6	70.6	70.7	71.0
IV 12000	37.5	60.7	64.3	67.4	69.5	69.5	70.6	71.1	71.1	71.4	71.4	71.4	71.6	71.6	71.7	71.9
IV 10000	38.2	62.5	67.0	70.3	72.4	72.4	73.7	74.2	74.2	74.5	74.5	74.5	74.7	74.7	74.8	75.0
IV 9000	38.9	63.3	67.7	71.1	73.2	73.2	74.4	74.9	74.9	75.3	75.3	75.3	75.4	75.4	75.5	75.8
IV 8000	39.2	63.9	68.7	72.1	74.2	74.3	75.4	75.9	75.9	76.3	76.3	76.3	76.4	76.4	76.5	76.8
IV 7000	39.9	65.1	70.0	73.3	75.4	75.5	76.6	77.1	77.1	77.5	77.5	77.5	77.6	77.6	77.8	78.0
IV 6000	40.5	66.4	71.1	74.5	76.6	76.8	77.9	78.4	78.4	78.7	78.7	78.7	78.9	78.9	79.0	79.2
IV 5000	41.0	67.2	72.4	76.0	78.1	78.2	79.4	79.9	79.9	80.2	80.2	80.2	80.3	80.3	80.5	80.7
IV 4500	41.2	67.7	73.1	76.6	79.0	79.1	80.3	80.8	80.8	81.5	81.5	81.5	81.6	81.6	81.7	82.0
IV 4000	41.8	69.0	74.3	77.9	80.2	80.3	81.6	82.1	82.1	82.7	82.7	82.7	82.8	82.8	82.9	83.2
IV 3500	41.9	69.8	75.5	79.1	81.7	81.8	83.2	83.7	83.7	84.3	84.3	84.3	84.7	84.7	84.8	85.0
IV 3000	42.3	70.7	76.8	80.5	83.6	83.7	85.3	85.8	85.8	86.4	86.4	86.4	86.7	86.7	86.9	87.1
IV 2500	42.9	71.7	77.9	81.7	84.8	84.9	87.0	87.5	87.5	88.3	88.3	88.3	88.6	88.6	88.8	89.0
IV 2000	43.6	72.9	79.4	83.4	86.8	86.9	89.1	89.9	89.9	90.7	91.0	91.0	91.1	91.1	91.2	91.5
IV 1800	44.4	73.8	80.3	84.7	88.0	88.1	90.4	91.1	91.1	92.0	92.2	92.2	92.3	92.3	92.5	92.7
IV 1500	44.6	74.4	81.3	85.8	89.1	89.2	91.5	92.2	92.2	93.1	93.3	93.3	93.4	93.4	93.6	93.8
IV 1200	44.9	74.4	81.6	86.2	89.9	89.9	92.0	92.7	92.7	93.6	93.8	93.8	93.9	93.9	94.1	94.3
IV 1000	44.9	74.9	82.2	86.8	90.1	90.2	92.7	93.6	93.6	94.4	94.7	94.7	94.8	94.8	94.9	95.2
IV 900	45.0	75.2	82.4	87.0	90.4	90.5	93.0	93.8	93.8	94.7	94.9	94.9	95.1	95.1	95.2	95.4
IV 800	45.1	75.5	82.9	87.6	91.0	91.1	93.6	94.4	94.4	95.3	95.6	95.6	95.7	95.7	95.8	96.0
IV 700	45.1	75.5	82.9	87.6	91.1	91.2	93.7	94.6	94.6	95.4	95.7	95.7	95.8	95.8	95.9	96.2
IV 600	45.1	75.5	82.9	87.6	91.2	91.3	93.8	94.7	94.7	95.6	95.8	95.8	95.9	95.9	96.0	96.3
IV 500	45.2	75.8	83.4	88.1	91.8	92.0	94.6	95.4	95.4	96.3	96.5	96.5	96.7	96.7	96.8	97.0
IV 400	45.2	75.8	83.4	88.1	92.2	92.3	95.1	96.0	96.0	97.2	97.4	97.5	97.7	97.7	97.8	98.0
IV 300	45.2	75.8	83.4	88.3	92.5	92.6	95.6	96.5	96.5	97.8	98.0	98.1	98.3	98.3	98.4	98.6
IV 200	45.2	75.8	83.4	88.3	92.5	92.7	95.8	96.9	96.9	98.3	98.6	98.8	98.9	98.9	99.0	99.3
IV 100	45.2	75.8	83.4	88.3	92.5	92.7	95.8	96.9	96.9	98.3	98.6	98.8	98.9	98.9	99.3	99.5
IV 0	45.2	75.8	83.4	88.3	92.5	92.7	95.8	96.9	96.9	98.3	98.6	98.8	98.9	98.9	99.3	100.0

TOTAL NUMBER OF OBSERVATIONS

809

USAF ETAC

FORM
JUL 64

0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

120390
STATION

PHILIPS-COLLINS/ALPENA MI

73-81

AVE

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

ALL
HOURS 1-24

CEILING FEET	VISIBILITY (STATUTE MILES)															
	≥10	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12
NO CEILING ≥ 20000	31.7	50.0	51.7	53.8	55.3	55.7	56.1	56.4	56.4	56.8	56.9	56.9	57.0	57.1	57.3	57.7
IV 18000	34.6	54.8	57.0	59.4	61.4	61.8	62.3	62.7	62.7	63.2	63.3	63.3	63.4	63.5	63.7	64.2
IV 16000	34.6	54.8	57.0	59.4	61.4	61.8	62.3	62.7	62.8	63.2	63.3	63.3	63.5	63.5	63.7	64.2
IV 14000	34.6	55.1	57.4	59.8	61.7	62.2	62.7	63.1	63.2	63.6	63.7	63.7	63.9	63.9	64.1	64.6
IV 12000	35.2	55.9	58.3	60.8	62.8	63.2	63.9	64.3	64.3	64.8	64.9	64.9	65.0	65.1	65.3	65.8
IV 10000	36.1	57.9	60.6	63.3	65.4	65.9	66.7	67.1	67.1	67.6	67.7	67.7	67.9	67.9	68.1	68.6
IV 9000	36.5	58.3	61.2	63.9	66.0	66.6	67.3	67.7	67.8	68.3	68.4	68.4	68.5	68.6	68.8	69.3
IV 8000	37.7	60.0	63.0	65.8	68.0	68.6	69.4	69.8	69.8	70.3	70.4	70.4	70.6	70.6	70.8	71.3
IV 7000	38.4	61.0	64.0	66.9	69.1	69.7	70.5	70.9	70.9	71.4	71.5	71.5	71.7	71.7	71.9	72.4
IV 6000	38.8	61.8	65.0	67.9	70.1	70.7	71.5	71.9	71.9	72.4	72.6	72.6	72.7	72.8	73.0	73.4
IV 5000	39.3	62.8	66.0	69.4	71.5	71.9	72.7	73.1	73.2	73.7	73.8	73.8	73.9	74.0	74.2	74.7
IV 4500	39.9	63.7	67.0	70.0	72.5	73.1	74.0	74.4	74.4	75.0	75.1	75.1	75.2	75.3	75.5	76.0
IV 4000	40.5	64.8	68.1	71.2	73.6	74.3	75.2	75.7	75.7	76.3	76.4	76.4	76.6	76.6	76.8	77.3
IV 3500	41.4	66.2	69.7	72.8	75.4	76.2	77.1	77.6	77.7	78.2	78.4	78.4	78.6	78.6	78.8	79.3
IV 3000	42.6	68.0	71.7	75.0	77.8	78.7	79.8	80.3	80.3	80.9	81.1	81.1	81.2	81.3	81.5	82.0
IV 2500	43.7	70.0	73.8	77.3	80.2	81.2	82.4	82.9	82.9	83.6	83.7	83.8	83.9	84.0	84.2	84.7
IV 2000	44.7	72.0	76.0	79.7	82.8	83.8	85.1	85.7	85.8	86.5	86.7	86.7	86.9	86.9	87.2	87.6
IV 1800	44.9	72.6	76.6	80.4	83.5	84.6	85.9	86.5	86.6	87.3	87.5	87.5	87.7	87.7	87.9	88.4
IV 1500	45.6	74.0	78.2	82.2	85.4	86.6	88.0	88.7	88.7	89.5	89.7	89.7	89.9	89.9	90.2	90.6
IV 1200	46.0	74.9	79.2	83.3	86.6	87.8	89.3	90.0	90.1	90.9	91.1	91.1	91.3	91.4	91.6	92.1
IV 1000	46.3	75.8	80.0	84.2	87.6	88.8	90.4	91.2	91.3	92.1	92.3	92.4	92.5	92.6	92.9	93.3
IV 900	46.3	75.9	80.4	84.8	88.0	89.2	90.8	91.7	91.8	92.6	92.8	92.8	93.0	93.1	93.3	93.8
IV 800	46.6	76.3	81.0	85.2	88.6	90.1	91.8	92.7	92.8	93.6	93.8	93.8	94.0	94.1	94.3	94.8
IV 700	46.7	76.8	81.3	85.5	89.2	90.5	92.3	93.2	93.3	94.2	94.4	94.4	94.6	94.7	94.9	95.4
IV 600	46.7	76.8	81.5	85.8	89.4	91.1	93.0	93.9	94.0	94.9	95.1	95.2	95.3	95.4	95.7	96.2
IV 500	46.8	76.9	81.8	86.1	90.2	91.6	93.6	94.6	94.7	95.7	96.0	96.0	96.2	96.3	96.5	97.0
IV 400	46.8	77.0	81.9	86.3	90.6	92.1	94.2	95.3	95.5	96.5	96.8	96.9	97.1	97.2	97.5	98.0
IV 300	46.8	77.0	81.9	86.4	90.7	92.2	94.4	95.6	95.8	96.9	97.3	97.4	97.7	97.8	98.0	98.5
IV 200	46.8	77.0	81.9	86.4	90.8	92.3	94.5	95.8	96.0	97.4	97.8	97.9	98.3	98.5	98.7	99.3
IV 100	46.8	77.0	81.9	86.4	90.8	92.3	94.6	95.8	96.0	97.4	97.8	98.0	98.4	98.6	99.0	99.6
IV 0	46.8	77.0	81.9	86.4	90.8	92.3	94.6	95.8	96.0	97.4	97.8	98.0	98.4	98.6	99.0	99.6

TOTAL NUMBER OF OBSERVATIONS 6556

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
A1- WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

1.639: PHELPS-COLLINS/ALPENA MI

73-81

SEP

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

3000-0200
HOURS LT

CEILING FEET	VISIBILITY STATUTE MILES															
	≥ 10	≥ 8	≥ 6	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1	≥ .75	≥ .5	≥ .25	≥ .15	≥ .1	≥ .05	≥ 0
NO CEILING	36.4	30.1	24.1	23.1	55.0	55.0	55.1	55.1	55.1	55.5	55.5	55.5	55.5	55.5	55.6	55.7
≥ 20000	31.5	52.4	53.8	55.5	56.9	56.9	57.0	57.0	57.0	57.4	57.4	57.4	57.4	57.4	57.5	57.7
≥ 18000	37.5	52.4	53.8	55.5	56.9	56.9	57.0	57.0	57.0	57.4	57.4	57.4	57.4	57.4	57.5	57.7
≥ 16000	37.5	52.4	53.8	55.5	56.9	56.9	57.0	57.0	57.0	57.4	57.4	57.4	57.4	57.4	57.5	57.7
≥ 14000	37.5	52.4	53.8	55.5	56.9	56.9	57.0	57.0	57.0	57.4	57.4	57.4	57.4	57.4	57.5	57.7
≥ 12000	38.2	54.1	55.6	57.3	58.7	58.7	58.8	58.8	58.8	59.2	59.2	59.2	59.2	59.2	59.3	59.5
≥ 10000	39.5	55.9	57.5	59.2	60.7	60.7	61.0	61.1	61.1	61.5	61.5	61.5	61.5	61.5	61.6	61.8
≥ 9000	39.5	55.9	57.5	59.2	60.7	60.7	61.0	61.1	61.1	61.5	61.5	61.5	61.5	61.5	61.6	61.8
≥ 8000	39.9	56.2	57.9	59.7	61.3	61.3	61.5	61.6	61.6	62.0	62.0	62.0	62.0	62.0	62.2	62.3
≥ 7000	40.7	57.0	58.7	60.5	62.0	62.0	62.3	62.4	62.4	62.8	62.8	62.8	62.8	62.8	62.9	63.1
≥ 6000	42.0	58.9	60.6	62.4	64.0	64.0	64.2	64.4	64.4	64.7	64.7	64.7	64.7	64.7	64.9	65.0
≥ 5000	43.6	61.9	64.0	65.8	67.4	67.4	67.7	67.8	67.8	68.2	68.2	68.2	68.2	68.2	68.3	68.5
IV 4500	45.2	64.4	66.5	68.3	70.0	70.0	70.3	70.4	70.4	70.8	70.8	70.8	70.8	70.8	70.9	71.0
IV 4000	45.9	65.5	67.7	69.5	71.2	71.2	71.4	71.6	71.6	71.9	71.9	71.9	71.9	71.9	72.1	72.2
IV 3500	47.1	68.0	70.3	72.1	73.9	73.9	74.1	74.3	74.3	74.8	74.8	74.8	74.8	74.8	74.9	75.0
IV 3000	47.7	70.0	72.3	74.1	75.9	75.9	76.2	76.3	76.3	76.8	76.8	76.8	76.8	76.8	77.0	77.1
IV 2500	50.5	74.1	77.0	78.9	80.8	80.8	81.1	81.2	81.2	81.7	81.7	81.7	81.7	81.7	81.9	82.0
IV 2000	51.7	76.1	79.1	81.6	83.7	83.7	83.9	84.2	84.2	84.7	84.7	84.7	84.7	84.7	84.8	84.9
IV 1800	52.6	77.1	80.7	82.6	84.7	84.7	84.9	85.2	85.2	85.7	85.7	85.7	85.7	85.7	85.8	86.0
IV 1500	53.7	79.9	83.0	84.9	87.0	87.0	87.3	87.5	87.5	88.0	88.0	88.0	88.0	88.0	88.2	88.3
IV 1200	54.3	81.5	84.6	86.5	88.5	88.5	88.8	89.2	89.2	89.7	89.7	89.7	89.7	89.7	89.8	90.0
IV 1000	55.0	82.4	85.5	87.5	89.7	89.7	90.2	90.7	90.7	91.2	91.2	91.2	91.2	91.2	91.4	91.5
IV 900	55.0	82.5	85.6	87.6	89.8	89.8	90.3	90.9	90.9	91.4	91.4	91.4	91.4	91.4	91.5	91.6
IV 800	55.0	82.9	86.7	89.1	91.3	91.3	92.0	92.5	92.5	93.2	93.2	93.2	93.2	93.2	93.3	93.4
IV 700	55.1	83.0	86.9	89.4	92.1	92.1	92.7	93.2	93.2	93.8	93.8	93.8	93.8	93.8	94.0	94.1
IV 600	55.1	83.4	87.4	90.1	92.8	92.9	93.4	94.0	94.0	94.6	94.6	94.6	94.6	94.6	94.7	94.9
IV 500	55.1	83.5	87.5	90.3	93.4	93.6	94.1	94.7	94.7	95.4	95.4	95.4	95.4	95.4	95.5	95.8
IV 400	55.1	83.8	87.9	91.0	94.2	94.5	95.4	96.0	96.0	96.7	96.7	96.7	96.7	96.7	96.8	97.0
IV 300	55.1	83.9	88.0	91.4	94.6	94.9	95.9	96.7	96.7	97.3	97.4	97.4	97.4	97.4	97.6	97.8
IV 200	55.1	83.9	88.0	91.4	94.6	94.9	96.1	97.2	97.3	97.9	98.1	98.1	98.1	98.1	98.5	98.8
IV 100	55.1	83.9	88.0	91.4	94.6	94.9	96.1	97.4	97.6	98.3	98.5	98.5	98.5	99.0	99.1	99.5
IV 0	55.1	83.9	88.0	91.4	94.6	94.9	96.1	97.4	97.6	98.3	98.5	98.5	99.0	99.0	99.2	100.0

TOTAL NUMBER OF OBSERVATIONS 777

USAF ETAC FORM 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/HAL

CEILING VERSUS VISIBILITY

72639 PHELPS-COLLINS/ALPENA MI

73-81

SEP

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0300-0500
HOURS (LST)

CEILING FEET	VISIBILITY - STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2½	≥ 2	≥ 1½	≥ 1¼	≥ 1	≥ ¾	≥ ½	≥ ¼	≥ 1/16	≥ .	≥ 0
NO CEILING	32.6	47.6	49.2	50.9	52.2	52.2	52.7	52.7	52.7	52.8	52.8	52.8	52.9	52.9	52.9	53.0
≥ 20000	33.5	48.7	50.4	52.0	53.3	53.3	53.8	53.8	53.8	53.9	53.9	53.9	54.1	54.1	54.1	54.2
IV 18000	33.5	48.7	50.4	52.0	53.3	53.3	53.8	53.8	53.8	53.9	53.9	53.9	54.1	54.1	54.1	54.2
IV 16000	33.5	48.7	50.4	52.0	53.3	53.3	53.8	53.8	53.8	53.9	53.9	53.9	54.1	54.1	54.1	54.2
IV 14000	33.5	48.7	50.4	52.0	53.3	53.3	53.8	53.8	53.8	53.9	53.9	53.9	54.1	54.1	54.1	54.2
IV 12000	33.5	49.5	51.1	52.8	54.1	54.1	54.6	54.6	54.6	54.7	54.7	54.7	54.8	54.8	54.8	54.9
IV 10000	34.5	51.1	52.8	54.4	56.1	56.1	56.6	56.6	56.6	56.7	56.7	56.7	56.9	56.9	56.9	57.2
IV 9000	34.5	51.3	52.9	54.6	56.2	56.2	56.7	56.7	56.7	56.9	56.9	56.9	57.0	57.0	57.0	57.4
IV 8000	36.2	52.9	54.6	56.2	57.9	57.9	58.4	58.4	58.4	58.5	58.5	58.5	58.6	58.6	58.6	59.0
IV 7000	37.1	53.9	55.6	57.2	58.9	58.9	59.4	59.4	59.4	59.5	59.5	59.5	59.6	59.6	59.6	60.0
IV 6000	38.5	55.8	57.5	59.1	60.9	60.9	61.4	61.4	61.4	61.5	61.5	61.5	61.7	61.7	61.7	62.1
IV 5000	39.8	57.6	59.3	60.9	62.7	62.7	63.2	63.2	63.2	63.3	63.3	63.3	63.5	63.5	63.5	63.8
IV 4500	40.8	58.5	60.3	62.1	63.8	63.8	64.7	64.7	64.7	64.8	64.8	64.8	65.0	65.0	65.0	65.4
IV 4000	41.5	59.6	61.5	63.3	65.1	65.1	66.0	66.0	66.0	66.1	66.1	66.1	66.2	66.2	66.2	66.6
IV 3500	42.6	62.4	64.3	66.1	68.0	68.0	68.9	68.9	68.9	69.0	69.0	69.0	69.2	69.2	69.2	69.5
IV 3000	43.5	65.0	67.1	68.9	70.8	70.8	71.7	71.7	71.7	71.8	71.8	71.8	72.0	72.0	72.0	72.3
IV 2500	46.4	69.3	71.7	73.5	75.4	75.4	76.3	76.3	76.3	76.4	76.4	76.4	76.5	76.5	76.5	76.9
IV 2000	47.6	71.8	74.2	76.1	78.3	78.3	79.2	79.2	79.2	79.3	79.3	79.3	79.4	79.4	79.4	79.8
IV 1800	48.6	72.4	75.3	77.2	79.3	79.3	80.2	80.2	80.2	80.3	80.3	80.3	80.5	80.5	80.5	80.8
IV 1500	49.5	75.1	77.9	80.1	82.4	82.4	83.4	83.4	83.4	83.5	83.5	83.5	83.6	83.6	83.6	84.0
IV 1200	50.5	77.2	80.1	82.2	84.8	84.8	86.0	86.0	86.0	86.2	86.4	86.4	86.5	86.5	86.5	86.9
IV 1000	51.1	79.1	82.1	84.5	87.4	87.4	89.0	89.0	89.0	89.1	89.5	89.5	89.6	89.6	89.6	90.0
IV 900	51.4	79.8	83.0	85.7	88.6	88.6	90.1	90.1	90.1	90.2	90.6	90.6	90.7	90.7	90.7	91.1
IV 800	52.0	80.8	83.9	86.7	90.0	90.0	91.5	91.5	91.5	91.6	92.0	92.0	92.1	92.1	92.1	92.5
IV 700	52.0	81.4	84.4	87.2	90.5	90.5	92.1	92.1	92.1	92.3	92.6	92.6	92.8	92.8	92.8	93.3
IV 600	52.0	81.0	84.4	87.3	90.6	90.6	92.3	92.3	92.3	92.4	92.8	92.8	93.0	93.0	93.3	93.7
IV 500	52.0	81.3	85.2	88.5	91.9	91.9	93.8	93.9	93.9	94.0	94.4	94.4	94.7	94.7	94.9	95.3
IV 400	52.0	81.5	85.3	89.0	92.9	93.0	95.8	96.1	96.1	96.2	96.7	96.7	97.0	97.0	97.2	97.6
IV 300	52.0	81.5	85.3	89.2	93.4	93.5	96.6	96.8	96.8	97.0	97.5	97.5	97.7	97.7	98.0	98.4
IV 200	52.0	81.5	85.3	89.2	93.4	93.5	96.7	97.1	97.1	97.2	97.8	97.8	98.4	98.4	98.6	99.1
IV 100	52.0	81.5	85.3	89.2	93.5	93.7	96.8	97.2	97.2	97.3	98.0	98.0	98.6	98.6	98.9	99.6
IV 0	52.0	81.5	85.3	89.2	93.5	93.7	96.8	97.2	97.2	97.3	98.0	98.0	98.7	98.7	99.0	100.0

TOTAL NUMBER OF OBSERVATIONS 788

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

72639U
STATION

PHILIPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEAR

SEP
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0600-0800
HOURS UTC

CEILING FEET	VISIBILITY : STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2½	≥2	≥1½	≥1¼	≥1	≥¾	≥½	≥¼	≥⅓	≥⅒	≥0
NO CEILING ≥ 20000	24.2	36.2	36.9	37.9	39.3	39.6	40.4	40.9	40.9	41.2	41.4	41.4	41.7	41.7	41.9	42.2
IV 18000	26.4	39.9	40.8	42.2	43.6	44.2	45.2	45.7	45.7	46.0	46.2	46.2	46.5	46.5	46.7	47.0
IV 16000	26.5	40.0	40.9	42.3	43.7	44.3	45.3	45.8	45.8	46.1	46.3	46.3	46.6	46.6	46.8	47.1
IV 14000	26.5	40.0	40.9	42.3	43.7	44.3	45.3	45.8	45.8	46.1	46.3	46.3	46.6	46.6	46.8	47.1
IV 12000	27.0	40.8	41.7	43.1	44.4	45.1	46.1	46.6	46.6	46.8	47.1	47.1	47.3	47.3	47.6	47.9
IV 10000	28.5	43.3	44.3	45.8	47.2	47.9	49.0	49.6	49.6	49.9	50.1	50.1	50.4	50.4	50.6	51.0
IV 9000	28.7	43.4	44.4	46.0	47.3	48.0	49.1	49.7	49.7	50.0	50.3	50.3	50.5	50.5	50.8	51.1
IV 8000	29.3	44.6	45.7	47.5	48.9	49.5	50.6	51.4	51.4	51.6	51.9	51.9	52.1	52.1	52.4	52.8
IV 7000	30.7	46.1	47.2	49.0	50.4	51.0	52.1	52.9	52.9	53.2	53.4	53.4	53.7	53.7	53.9	54.3
IV 6000	31.3	47.0	48.2	50.0	51.4	52.0	53.2	54.0	54.0	54.3	54.5	54.5	54.8	54.8	55.2	55.6
IV 5000	32.6	49.5	50.9	52.7	54.0	54.7	55.8	56.7	56.7	56.9	57.2	57.2	57.4	57.6	57.8	58.3
IV 4500	33.7	51.5	53.0	54.8	56.4	57.1	58.2	59.3	59.3	59.6	59.8	59.8	60.1	60.2	60.6	61.1
IV 4000	34.5	52.4	53.9	55.7	57.3	58.1	59.2	60.4	60.4	60.6	60.9	60.9	61.1	61.2	61.6	62.1
IV 3500	35.4	53.8	55.3	57.1	58.7	59.5	60.6	61.8	61.8	62.0	62.3	62.3	62.5	62.6	62.9	63.4
IV 3000	38.1	59.1	61.2	63.4	65.3	66.2	67.3	68.6	68.6	68.8	69.1	69.1	69.3	69.4	69.8	70.3
IV 2500	40.5	62.5	64.9	67.3	69.3	70.2	71.6	73.0	73.0	73.2	73.5	73.5	73.7	73.9	74.2	74.7
IV 2000	42.7	65.8	68.6	71.0	73.0	74.0	75.4	76.8	76.8	77.0	77.3	77.3	77.5	77.7	78.0	78.5
IV 1800	43.1	66.4	69.2	71.6	73.6	74.6	76.0	77.4	77.4	77.7	77.9	77.9	78.2	78.3	78.7	79.2
IV 1500	44.4	68.4	72.0	74.4	76.8	77.8	79.3	80.8	80.8	81.1	81.3	81.3	81.6	81.7	82.1	82.6
IV 1200	45.1	70.7	73.7	76.1	78.7	79.8	81.3	82.8	82.8	83.1	83.3	83.3	83.6	83.7	84.1	84.6
IV 1000	46.0	73.7	76.8	79.3	81.8	83.2	84.7	86.2	86.2	86.6	86.9	86.9	87.1	87.2	87.6	88.1
IV 900	46.0	73.9	76.9	79.7	82.3	83.7	85.2	86.7	86.7	87.1	87.4	87.4	87.6	87.8	88.1	88.6
IV 800	46.2	74.6	77.7	80.7	83.5	85.0	86.5	88.0	88.0	88.4	88.6	88.6	88.9	89.0	89.4	89.9
IV 700	46.3	75.1	78.5	81.6	84.6	86.1	87.6	89.3	89.3	89.6	90.0	90.0	90.3	90.4	90.8	91.3
IV 600	46.3	75.5	79.0	82.4	85.6	87.1	88.8	90.5	90.7	91.2	91.5	91.5	91.9	92.0	92.4	92.9
IV 500	46.3	76.0	79.7	83.3	87.1	89.1	90.9	92.9	93.1	93.7	94.1	94.1	94.4	94.6	94.9	95.3
IV 400	46.3	76.1	79.9	83.6	87.8	90.0	92.2	94.3	94.6	95.6	96.2	96.2	96.6	96.8	97.2	97.7
IV 300	46.3	76.1	79.9	83.6	87.9	90.3	92.4	94.6	94.9	96.0	96.7	96.7	97.2	97.3	97.9	98.4
IV 200	46.3	76.1	79.9	83.6	88.0	90.4	92.6	94.8	95.2	96.2	97.1	97.1	97.9	98.1	98.6	99.1
IV 100	46.3	76.1	79.9	83.6	88.0	90.4	92.6	94.8	95.2	96.2	97.1	97.1	98.0	98.2	98.7	99.6
IV 0	46.3	76.1	79.9	83.6	88.0	90.4	92.6	94.8	95.2	96.2	97.1	97.1	98.0	98.2	98.7	99.6

TOTAL NUMBER OF OBSERVATIONS 192

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

1/659 PHLEPS-COLLINS/ALPENA MI

73-81

SEP

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0900-1100
HOURS LST

CEILING FEET	VISIBILITY - STATUTE MILES															
	≥10	≥8	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1	≥0.5	≥0.25	≥0.15	≥0.1	≥0.05	≥0.025	≥0.01
NO CEILING	26.5	37.9	38.8	39.5	40.3	40.4	40.6	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9
≥ 20000	28.9	41.9	43.2	44.1	44.9	45.0	45.3	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5
≥ 18000	29.9	41.9	43.2	44.1	44.9	45.0	45.3	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5
≥ 16000	28.9	41.9	43.2	44.1	44.9	45.0	45.3	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5
≥ 14000	28.9	42.2	43.5	44.4	45.2	45.3	45.5	45.8	45.8	45.8	45.8	45.8	45.8	45.8	45.8	45.8
≥ 12000	29.3	42.6	43.9	44.8	45.5	45.7	45.9	46.2	46.2	46.2	46.2	46.2	46.2	46.2	46.2	46.2
≥ 10000	31.0	45.4	46.8	47.7	48.6	48.8	49.2	49.4	49.4	49.4	49.4	49.4	49.4	49.4	49.4	49.4
≥ 9000	31.1	45.5	47.0	47.9	48.8	48.9	49.3	49.5	49.5	49.5	49.5	49.5	49.5	49.5	49.5	49.5
≥ 8000	32.4	48.1	49.5	50.5	51.4	51.5	51.9	52.1	52.1	52.1	52.1	52.1	52.1	52.1	52.1	52.1
≥ 7000	33.2	48.5	49.9	50.8	51.9	52.0	52.4	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6
≥ 6000	34.2	50.1	51.6	52.5	53.5	53.7	54.1	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3
≥ 5000	35.4	52.3	53.9	55.0	56.1	56.3	56.6	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9
≥ 4500	35.7	53.3	55.1	56.3	57.5	57.7	58.1	58.3	58.3	58.3	58.3	58.3	58.3	58.3	58.3	58.3
≥ 4000	35.7	53.9	55.7	57.0	58.3	58.5	58.8	59.1	59.1	59.2	59.2	59.2	59.2	59.2	59.2	59.2
≥ 3500	37.4	55.9	57.8	59.2	60.8	60.9	61.3	61.5	61.5	61.7	61.7	61.7	61.7	61.7	61.7	61.7
≥ 3000	38.2	57.9	60.1	61.5	63.1	63.2	63.6	63.9	63.9	64.0	64.0	64.0	64.0	64.0	64.0	64.0
≥ 2500	41.0	62.8	65.0	66.7	68.4	68.8	69.2	69.4	69.4	69.5	69.5	69.5	69.5	69.5	69.5	69.5
≥ 2000	48.4	67.6	69.9	71.7	73.4	73.8	74.2	74.5	74.5	74.6	74.6	74.6	74.6	74.6	74.6	74.6
≥ 1800	45.4	69.5	71.9	73.7	75.4	75.7	76.1	76.4	76.4	76.5	76.5	76.5	76.5	76.5	76.5	76.5
≥ 1500	48.3	74.2	76.5	78.8	80.6	81.0	81.4	81.7	81.7	81.8	81.8	81.8	81.8	81.8	81.8	81.8
≥ 1200	49.2	76.8	79.1	81.4	83.8	84.0	84.4	84.6	84.6	84.8	84.8	84.8	84.8	84.8	84.8	84.8
≥ 1000	49.8	78.6	81.2	83.6	86.5	86.8	87.2	87.6	87.6	87.9	87.9	87.9	87.9	87.9	87.9	87.9
≥ 900	50.6	79.5	82.2	84.6	87.6	88.0	88.4	88.9	88.9	89.2	89.2	89.2	89.2	89.2	89.2	89.2
≥ 800	50.5	80.8	83.6	86.1	89.3	89.7	90.2	90.7	90.7	91.0	91.0	91.0	91.0	91.0	91.0	91.0
≥ 700	51.4	82.3	85.4	88.0	91.5	92.1	92.8	93.3	93.3	93.5	93.5	93.5	93.5	93.5	93.5	93.5
≥ 600	51.5	82.8	85.8	88.4	92.3	92.9	93.7	94.3	94.3	94.8	94.8	94.8	94.8	94.8	94.8	94.8
≥ 500	51.5	83.4	86.7	89.3	93.4	94.5	95.8	96.4	96.4	96.9	97.0	97.0	97.0	97.0	97.0	97.0
≥ 400	51.5	83.5	86.8	89.4	93.5	95.1	96.9	97.8	97.8	98.3	98.5	98.5	98.5	98.5	98.5	98.5
≥ 300	51.6	83.6	87.0	89.5	93.7	95.4	97.2	98.2	98.2	99.0	99.2	99.2	99.2	99.2	99.2	99.2
≥ 200	51.6	83.6	87.0	89.7	93.9	95.6	97.4	98.5	98.5	99.4	99.6	99.6	99.6	99.6	99.6	99.6
≥ 100	51.6	83.6	87.0	89.7	93.9	95.6	97.4	98.5	98.5	99.4	99.6	99.6	99.6	99.6	99.6	99.6
≥ 0	51.6	83.6	87.0	89.7	93.9	95.6	97.4	98.5	98.5	99.4	99.6	99.6	99.6	99.6	99.6	100.0

TOTAL NUMBER OF OBSERVATIONS 775

USAF ETAC FORM 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AFW WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

170390
STATION

PHILIPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

SEP
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1200-1400
HOURS, U.S.T.

CEILING FEET	VISIBILITY - STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1	≥ .5	≥ .4	≥ .3	≥ .25	≥ .2	≥ .15	≥ .1
NO CEILING	28.6	40.8	41.2	41.7	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0
≥ 20000	31.5	46.0	46.4	47.0	47.4	47.4	47.4	47.4	47.4	47.4	47.4	47.4	47.4	47.4	47.4	47.4
IV 18000	31.6	46.1	46.5	47.2	47.5	47.5	47.5	47.5	47.5	47.5	47.5	47.5	47.5	47.5	47.5	47.5
IV 16000	31.6	46.1	46.5	47.2	47.5	47.5	47.5	47.5	47.5	47.5	47.5	47.5	47.5	47.5	47.5	47.5
IV 14000	31.6	46.1	46.5	47.2	47.5	47.5	47.5	47.5	47.5	47.5	47.5	47.5	47.5	47.5	47.5	47.5
IV 12000	32.1	47.0	47.4	48.0	48.4	48.4	48.4	48.4	48.4	48.4	48.4	48.4	48.4	48.4	48.4	48.4
IV 10000	33.5	49.6	49.9	50.7	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1
IV 9000	33.6	49.8	50.2	50.9	51.3	51.3	51.3	51.3	51.3	51.3	51.3	51.3	51.3	51.3	51.3	51.3
IV 8000	35.4	52.1	52.5	53.2	53.6	53.6	53.6	53.6	53.6	53.6	53.6	53.6	53.6	53.6	53.6	53.6
IV 7000	36.3	53.2	53.6	54.4	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7
IV 6000	36.8	54.1	54.6	55.4	55.9	55.9	55.9	55.9	55.9	55.9	55.9	55.9	55.9	55.9	55.9	55.9
IV 5000	38.1	55.5	56.0	56.9	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5
IV 4500	39.4	58.3	58.9	59.8	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6
IV 4000	40.6	60.4	61.1	62.1	62.8	63.0	63.1	63.1	63.1	63.1	63.1	63.1	63.1	63.1	63.1	63.1
IV 3500	43.7	64.5	65.2	66.2	67.0	67.1	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3
IV 3000	45.9	68.4	69.2	70.2	70.9	71.2	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4
IV 2500	49.6	74.2	75.0	76.1	77.0	77.2	77.5	77.5	77.5	77.5	77.5	77.5	77.5	77.5	77.5	77.5
IV 2000	52.7	78.9	79.6	80.8	81.8	82.0	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3
IV 1800	53.5	80.2	80.9	82.0	83.1	83.3	83.6	83.6	83.6	83.6	83.6	83.6	83.6	83.6	83.6	83.6
IV 1500	55.9	83.8	84.7	86.3	87.4	87.7	88.1	88.1	88.1	88.1	88.1	88.1	88.1	88.1	88.1	88.1
IV 1200	57.0	86.0	86.9	88.6	89.6	90.0	90.4	90.4	90.4	90.5	90.5	90.5	90.5	90.5	90.5	90.5
IV 1000	57.8	87.7	88.6	90.5	91.7	92.0	92.4	92.4	92.4	92.5	92.5	92.5	92.5	92.5	92.5	92.5
IV 900	58.0	88.0	89.0	90.9	92.8	92.8	92.8	92.9	92.9	93.2	93.2	93.2	93.2	93.2	93.2	93.2
IV 800	58.4	88.9	90.0	92.0	93.4	93.8	94.2	94.4	94.6	94.9	94.9	94.9	94.9	94.9	94.9	94.9
IV 700	58.7	89.4	91.0	93.3	94.8	95.3	95.8	96.1	96.2	96.6	96.6	96.6	96.6	96.6	96.6	96.6
IV 600	58.7	89.4	91.0	93.3	94.8	95.4	96.1	96.5	96.6	97.0	97.0	97.0	97.0	97.0	97.0	97.0
IV 500	58.7	89.6	91.3	93.6	95.2	95.8	97.1	97.6	97.7	98.2	98.2	98.2	98.2	98.2	98.2	98.2
IV 400	58.7	89.6	91.3	93.8	95.4	96.1	97.3	98.2	98.4	99.1	99.1	99.1	99.1	99.1	99.1	99.1
IV 300	58.7	89.6	91.3	93.8	95.4	96.2	97.6	98.5	98.6	99.5	99.9	99.9	99.9	99.9	99.9	99.9
IV 200	58.7	89.6	91.3	93.8	95.4	96.2	97.6	98.5	98.6	99.5	99.9	99.9	99.9	99.9	99.9	99.9
IV 100	58.7	89.6	91.3	93.8	95.4	96.2	97.6	98.5	98.6	99.5	99.9	99.9	99.9	99.9	99.9	99.9
IV 0	58.7	89.6	91.3	93.8	95.4	96.2	97.6	98.5	98.6	99.5	99.9	99.9	99.9	99.9	99.9	99.9

TOTAL NUMBER OF OBSERVATIONS 791

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

12639
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEAR

SEP
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1500-1700
TIME

CEILING FEET	VISIBILITY STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1	≥0.5	≥0.25	≥0.15	≥0.1	≥0.05	≥0.025	≥0.01
NO CEILING	28.4	42.7	42.9	43.1	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4
≥ 20000	32.1	48.4	48.8	48.9	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3
≥ 18000	32.1	48.4	48.8	48.9	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3
≥ 16000	32.1	48.4	48.8	48.9	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3
≥ 14000	32.2	48.9	49.3	49.4	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8
≥ 12000	32.3	49.3	49.7	49.8	50.2	50.2	50.2	50.2	50.2	50.2	50.2	50.2	50.2	50.2	50.2	50.2
≥ 10000	34.0	51.2	51.6	51.8	52.2	52.2	52.2	52.2	52.2	52.2	52.2	52.2	52.2	52.2	52.2	52.2
≥ 9000	34.0	51.2	51.6	51.8	52.2	52.2	52.2	52.2	52.2	52.2	52.2	52.2	52.2	52.2	52.2	52.2
≥ 8000	35.8	53.5	53.9	54.1	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5
≥ 7000	36.2	54.1	54.5	54.8	55.2	55.2	55.2	55.2	55.2	55.2	55.2	55.2	55.2	55.2	55.2	55.2
≥ 6000	35.4	54.4	54.8	55.0	55.4	55.4	55.4	55.4	55.4	55.4	55.4	55.4	55.4	55.4	55.4	55.4
≥ 5000	38.1	57.3	58.0	58.5	58.9	59.0	59.0	59.0	59.0	59.0	59.0	59.0	59.0	59.0	59.0	59.0
≥ 4500	39.6	60.0	60.6	61.3	61.7	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8
≥ 4000	42.2	62.5	63.2	63.8	64.2	64.3	64.3	64.3	64.3	64.3	64.3	64.3	64.3	64.3	64.3	64.3
≥ 3500	44.4	65.9	66.8	67.4	67.8	67.9	67.9	67.9	67.9	67.9	67.9	67.9	67.9	67.9	67.9	67.9
≥ 3000	49.2	71.7	72.9	73.5	73.9	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0
≥ 2500	53.0	77.2	78.3	79.2	79.6	79.7	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9
≥ 2000	55.7	81.3	82.7	83.7	84.1	84.3	84.5	84.5	84.5	84.5	84.5	84.5	84.5	84.5	84.5	84.5
≥ 1800	56.1	82.0	83.4	84.6	85.0	85.2	85.4	85.4	85.4	85.4	85.4	85.4	85.4	85.4	85.4	85.4
≥ 1500	58.1	85.5	87.1	88.5	88.9	89.4	89.6	89.6	89.6	89.6	89.6	89.7	89.7	89.7	89.7	89.7
≥ 1200	59.3	86.9	88.7	90.1	90.4	91.1	91.2	91.2	91.2	91.2	91.2	91.3	91.3	91.3	91.3	91.3
≥ 1000	60.1	88.3	90.3	91.7	92.2	92.9	93.2	93.4	93.4	93.4	93.6	93.8	93.8	93.8	93.8	93.8
≥ 900	60.1	88.3	90.3	92.0	92.6	93.2	93.6	93.8	93.8	93.8	94.0	94.1	94.1	94.1	94.1	94.1
≥ 800	60.3	88.4	90.4	92.1	92.9	93.5	94.0	94.1	94.1	94.1	94.4	94.5	94.5	94.6	94.6	94.6
≥ 700	60.3	88.5	90.6	92.4	93.2	93.9	94.4	94.5	94.5	94.5	94.8	94.9	94.9	95.0	95.0	95.0
≥ 600	60.3	88.8	90.8	92.6	94.0	94.8	95.3	95.7	95.7	95.7	96.1	96.2	96.2	96.3	96.3	96.3
≥ 500	60.3	89.2	91.2	93.1	94.8	95.7	96.9	97.3	97.3	97.3	97.8	98.0	98.0	98.1	98.1	98.1
≥ 400	60.3	89.2	91.2	93.1	94.9	96.1	97.5	98.6	98.6	98.6	99.1	99.2	99.2	99.4	99.4	99.4
≥ 300	60.3	89.2	91.2	93.4	95.2	96.3	97.7	98.9	98.9	98.9	99.7	99.7	99.7	99.9	99.9	99.9
≥ 200	60.3	89.2	91.2	93.4	95.2	96.3	97.7	98.9	98.9	98.9	99.7	99.7	99.7	99.9	99.9	99.9
≥ 100	60.3	89.2	91.2	93.4	95.2	96.3	97.7	98.9	98.9	98.9	99.7	99.7	99.7	99.9	99.9	99.9
≥ 0	60.3	89.2	91.2	93.4	95.2	96.3	97.7	98.9	98.9	98.9	99.7	99.7	99.7	99.9	99.9	99.9

TOTAL NUMBER OF OBSERVATIONS 785

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

7-839
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEAR

SEP
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

1800-2000
HOURS

CEILING FEET	VISIBILITY STATUTE MILES															
	≥ 10	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12
NO CEILING	32.6	47.6	49.2	49.8	50.3	50.3	50.3	50.3	50.3	50.3	50.3	50.3	50.3	50.3	50.3	50.3
≥ 20000	36.2	53.0	54.8	55.4	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0
≥ 18000	36.2	53.0	54.8	55.4	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0
≥ 16000	36.2	53.0	54.8	55.4	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0
≥ 14000	36.2	53.1	54.9	55.5	56.1	56.1	56.1	56.1	56.1	56.1	56.1	56.1	56.1	56.1	56.1	56.1
≥ 12000	37.1	55.1	56.9	57.5	58.2	58.2	58.2	58.2	58.2	58.2	58.2	58.2	58.2	58.2	58.2	58.2
≥ 10000	39.7	57.4	59.2	59.8	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6
≥ 9000	39.7	57.4	59.2	59.8	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6
≥ 8000	39.8	59.7	61.6	62.2	63.1	63.1	63.1	63.1	63.1	63.1	63.1	63.1	63.1	63.1	63.1	63.1
≥ 7000	47.4	60.5	62.4	63.0	63.9	63.9	63.9	63.9	63.9	63.9	63.9	63.9	63.9	63.9	63.9	63.9
≥ 6000	40.4	61.2	63.1	63.8	64.6	64.6	64.6	64.6	64.6	64.6	64.6	64.6	64.6	64.6	64.6	64.6
≥ 5000	42.3	63.8	65.8	66.4	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3
≥ 4500	45.4	66.3	68.3	68.9	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.1
≥ 4000	45.8	67.4	69.5	70.1	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2
≥ 3500	47.5	69.8	72.0	72.6	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9
≥ 3000	51.1	74.5	76.9	77.6	78.8	78.8	78.8	78.8	78.8	79.0	79.0	79.0	79.0	79.0	79.0	79.0
≥ 2500	53.6	78.7	81.5	82.6	83.9	84.0	84.2	84.2	84.2	84.3	84.3	84.3	84.3	84.3	84.3	84.3
≥ 2000	55.0	81.1	84.3	86.1	87.5	87.8	88.1	88.1	88.1	88.2	88.2	88.2	88.2	88.2	88.3	88.3
≥ 1800	55.1	82.0	85.0	86.6	88.0	88.5	88.7	88.7	88.7	88.8	88.8	88.8	88.8	88.8	89.0	89.0
≥ 1500	56.5	84.5	87.8	89.5	90.9	91.4	91.6	91.6	91.6	91.8	91.8	91.8	91.8	91.8	91.9	91.9
≥ 1200	57.2	85.4	88.7	90.4	91.9	92.4	92.6	92.6	92.6	92.8	92.8	92.8	92.8	92.8	92.9	92.9
≥ 1000	57.3	85.9	89.2	91.1	92.8	93.4	93.7	93.7	93.7	93.8	93.9	93.9	93.9	93.9	94.0	94.0
≥ 900	57.3	85.9	89.4	91.4	93.0	93.7	93.9	94.0	94.0	94.2	94.3	94.3	94.3	94.3	94.4	94.4
≥ 800	57.5	86.3	89.9	92.0	93.8	94.4	94.7	94.8	94.8	94.9	95.2	95.2	95.2	95.2	95.3	95.3
≥ 700	57.5	86.3	89.9	92.0	94.2	94.8	95.1	95.2	95.2	95.3	95.6	95.6	95.6	95.6	95.7	95.7
≥ 600	57.5	86.3	90.0	92.1	94.3	95.1	95.8	95.9	95.9	96.1	96.3	96.3	96.3	96.3	96.5	96.5
≥ 500	57.5	86.3	90.4	92.6	94.9	95.7	96.7	96.8	96.8	97.0	97.2	97.2	97.2	97.2	97.3	97.3
≥ 400	57.5	86.3	90.5	93.2	95.8	96.7	98.2	98.4	98.4	98.7	99.1	99.1	99.1	99.1	99.2	99.2
≥ 300	57.5	86.3	90.5	93.2	95.8	96.7	98.2	98.6	98.6	99.0	99.5	99.5	99.5	99.5	99.6	99.6
≥ 200	57.5	86.3	90.5	93.2	95.8	96.7	98.2	98.7	98.7	99.1	99.6	99.6	99.6	99.6	99.7	99.7
≥ 100	57.5	86.3	90.5	93.2	95.8	96.7	98.2	98.7	98.7	99.2	99.7	99.7	99.7	99.7	99.9	99.9
≥ 0	57.5	86.3	90.5	93.2	95.8	96.7	98.2	98.7	98.7	99.2	99.7	99.7	99.7	99.7	99.9	100.0

TOTAL NUMBER OF OBSERVATIONS 789

GLOBAL CLIMATOLOGY BRANCH
NOAA/ETAC
AIR WEATHER SERVICE/MAL

CEILING VERSUS VISIBILITY

7-639
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

SEP
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

2100-2300
LOCAL TIME

CEILING FEET	VISIBILITY STATUTE MILES															
	≥10	≥8	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1.4	≥1	≥.8	≥.6	≥.5	≥.4	≥.3	≥.2
NO CEILING	36.3	52.3	54.2	54.6	54.8	54.8	54.8	54.8	54.8	55.1	55.2	55.2	55.3	55.3	55.5	55.5
≥ 20000	36.3	53.9	55.8	56.2	56.5	56.5	56.5	56.5	56.5	56.7	56.9	56.9	57.0	57.0	57.1	57.1
≥ 18000	36.5	53.9	55.8	56.2	56.5	56.5	56.5	56.5	56.5	56.7	56.9	56.9	57.0	57.0	57.1	57.1
≥ 16000	36.5	53.9	55.8	56.2	56.5	56.5	56.5	56.5	56.5	56.7	56.9	56.9	57.0	57.0	57.1	57.1
≥ 14000	36.7	54.2	56.1	56.5	56.7	56.7	56.7	56.7	56.7	57.0	57.1	57.1	57.2	57.2	57.4	57.4
≥ 12000	37.6	55.5	57.5	57.9	58.1	58.1	58.1	58.1	58.1	58.4	58.5	58.5	58.6	58.6	58.8	58.8
≥ 10000	38.8	57.2	59.4	59.8	60.2	60.2	60.2	60.2	60.2	60.4	60.5	60.5	60.7	60.7	60.8	60.8
≥ 9000	39.0	57.4	59.5	59.9	60.3	60.3	60.3	60.3	60.3	60.5	60.7	60.7	60.8	60.8	60.9	60.9
≥ 8000	39.2	58.0	60.2	60.5	61.2	61.2	61.2	61.2	61.2	61.4	61.5	61.5	61.7	61.7	61.8	61.8
≥ 7000	39.7	58.6	61.0	61.4	62.1	62.1	62.1	62.1	62.1	62.3	62.4	62.4	62.6	62.6	62.7	62.7
≥ 6000	41.2	61.2	63.6	64.0	64.6	64.6	64.6	64.6	64.6	64.8	65.0	65.0	65.1	65.1	65.2	65.2
≥ 5000	42.6	63.8	66.4	66.9	67.5	67.5	67.5	67.5	67.5	67.8	67.9	67.9	68.0	68.0	68.1	68.1
≥ 4500	44.4	67.0	69.7	70.3	70.9	70.9	70.9	70.9	70.9	71.2	71.3	71.3	71.4	71.4	71.6	71.6
≥ 4000	45.1	68.3	71.4	71.6	72.2	72.2	72.2	72.2	72.2	72.5	72.6	72.6	72.7	72.7	72.8	72.8
≥ 3500	47.7	71.3	74.0	74.7	75.4	75.4	75.4	75.4	75.4	75.6	75.8	75.8	75.9	75.9	76.0	76.0
≥ 3000	49.5	74.3	76.9	77.7	78.4	78.4	78.4	78.4	78.4	78.7	78.8	78.8	78.9	78.9	79.1	79.1
≥ 2500	51.6	78.6	81.6	82.9	83.6	83.6	83.6	83.6	83.6	83.9	84.0	84.0	84.1	84.1	84.3	84.3
≥ 2000	53.9	82.0	85.2	86.7	87.6	87.6	87.6	87.6	87.6	87.8	87.9	87.9	88.1	88.1	88.2	88.2
≥ 1800	54.3	82.7	85.9	87.4	88.3	88.3	88.3	88.3	88.3	88.6	88.7	88.7	88.8	88.8	89.0	89.0
≥ 1500	54.7	84.0	87.2	88.8	90.1	90.1	90.2	90.2	90.2	90.5	90.6	90.6	90.7	90.7	90.9	90.9
≥ 1200	54.9	84.3	87.6	89.5	90.7	90.7	91.0	91.0	91.0	91.2	91.4	91.4	91.5	91.5	91.6	91.6
≥ 1000	55.2	84.8	88.3	90.2	91.6	91.6	91.9	91.9	91.9	92.1	92.3	92.3	92.4	92.4	92.5	92.5
≥ 900	55.3	84.9	88.6	90.5	91.9	91.9	92.1	92.1	92.1	92.4	92.5	92.5	92.6	92.6	92.8	92.8
≥ 800	55.3	85.2	89.0	90.9	92.3	92.3	92.6	92.6	92.6	93.0	93.1	93.1	93.3	93.3	93.4	93.4
≥ 700	55.5	85.2	89.0	90.9	92.3	92.3	92.6	92.6	92.6	93.1	93.3	93.3	93.4	93.4	93.5	93.5
≥ 600	55.5	85.4	89.3	91.2	92.6	92.6	93.7	93.7	94.0	94.3	94.4	94.4	94.5	94.5	94.7	94.7
≥ 500	55.5	85.5	89.5	91.4	93.1	93.7	94.7	95.2	95.2	95.4	95.6	95.6	95.7	95.7	95.8	95.8
≥ 400	55.5	85.8	89.8	91.8	93.9	94.5	95.7	96.2	96.2	96.6	96.7	96.7	96.8	96.8	97.0	97.0
≥ 300	55.5	85.8	90.1	92.3	94.9	95.6	97.1	97.6	97.6	98.1	98.2	98.2	98.4	98.4	98.5	98.5
≥ 200	55.5	85.8	90.1	92.3	94.9	95.6	97.3	97.8	98.0	98.5	98.6	98.6	98.7	98.7	99.0	99.0
≥ 100	55.5	85.8	90.1	92.3	94.9	95.7	97.5	98.1	98.2	98.7	98.9	98.9	99.0	99.0	99.2	99.2
≥ 0	55.5	85.8	90.1	92.3	94.9	95.7	97.5	98.1	98.2	98.7	98.9	98.9	99.0	99.0	99.2	100.0

TOTAL NUMBER OF OBSERVATIONS 788

USAF ETAC

FORM
JUL 64

0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
UNOFFICIAL
AIR WEATHER SERVICE/MAL

CEILING VERSUS VISIBILITY

7.639
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

SEP
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

ALL
OCCURRENCE

CEILING FEET	VISIBILITY STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1	≥0.5	≥0.25	≥0.1	≥0.05	≥0.025	≥0.01	≥0
NO CEILING	30.7	44.5	45.6	46.4	47.1	47.2	47.4	47.5	47.5	47.6	47.7	47.7	47.7	47.7	47.9	47.9
≥ 20000	32.8	48.0	49.2	50.2	51.0	51.1	51.3	51.4	51.4	51.5	51.6	51.6	51.6	51.6	51.7	51.9
≥ 18000	32.9	48.1	49.3	50.2	51.0	51.1	51.3	51.4	51.4	51.6	51.6	51.6	51.6	51.7	51.7	51.8
≥ 16000	32.9	48.1	49.3	50.2	51.0	51.1	51.3	51.4	51.4	51.6	51.6	51.6	51.6	51.7	51.7	51.8
≥ 14000	32.9	48.2	49.4	50.3	51.2	51.2	51.5	51.6	51.6	51.7	51.8	51.8	51.8	51.8	51.9	51.9
≥ 12000	33.4	49.2	50.5	51.4	52.2	52.3	52.5	52.6	52.6	52.8	52.8	52.8	52.9	52.9	52.9	53.0
≥ 10000	34.9	51.4	52.7	53.7	54.6	54.7	55.0	55.1	55.1	55.2	55.3	55.3	55.3	55.3	55.4	55.5
≥ 9000	34.9	51.5	52.8	53.8	54.7	54.8	55.1	55.2	55.2	55.3	55.4	55.4	55.4	55.4	55.5	55.6
≥ 8000	36.1	53.1	54.5	55.5	56.5	56.6	56.8	57.0	57.0	57.1	57.2	57.2	57.2	57.2	57.3	57.4
≥ 7000	36.8	54.0	55.4	56.4	57.4	57.5	57.8	57.9	57.9	58.0	58.1	58.1	58.1	58.1	58.2	58.3
≥ 6000	37.6	55.3	56.8	57.8	58.8	58.9	59.2	59.3	59.3	59.5	59.5	59.5	59.6	59.6	59.6	59.8
≥ 5000	39.1	57.7	59.3	60.4	61.4	61.5	61.8	62.0	62.0	62.1	62.2	62.2	62.2	62.2	62.3	62.4
≥ 4500	40.5	59.9	61.6	62.7	63.9	64.0	64.3	64.5	64.5	64.6	64.7	64.7	64.8	64.8	64.9	65.0
≥ 4000	41.4	61.3	62.9	64.1	65.3	65.4	65.8	66.0	66.0	66.1	66.2	66.2	66.2	66.3	66.3	66.5
≥ 3500	43.3	64.2	66.0	67.3	68.5	68.7	69.0	69.2	69.2	69.4	69.4	69.4	69.5	69.5	69.6	69.7
≥ 3000	45.4	67.6	69.6	70.9	72.2	72.3	72.7	72.9	72.9	73.1	73.1	73.1	73.2	73.2	73.3	73.4
≥ 2500	48.3	72.2	74.4	75.9	77.3	77.5	77.9	78.1	78.1	78.3	78.4	78.4	78.4	78.4	78.5	78.6
≥ 2000	50.5	75.7	78.1	79.7	81.2	81.4	81.9	82.1	82.1	82.3	82.4	82.4	82.4	82.4	82.5	82.7
≥ 1800	51.2	76.7	79.0	80.7	82.2	82.5	82.9	83.2	83.2	83.3	83.4	83.4	83.4	83.5	83.5	83.7
≥ 1500	52.6	79.5	82.0	83.9	85.5	85.9	86.4	86.6	86.6	86.8	86.9	86.9	86.9	86.9	87.0	87.2
≥ 1200	53.4	81.1	83.7	85.6	87.3	87.7	88.2	88.5	88.5	88.7	88.8	88.8	88.8	88.9	89.0	89.1
≥ 1000	54.0	82.6	85.3	87.3	89.2	89.6	90.3	90.6	90.6	90.8	91.0	91.0	91.1	91.1	91.2	91.3
≥ 900	54.2	82.8	85.6	87.8	89.7	90.2	90.8	91.2	91.2	91.5	91.6	91.6	91.7	91.7	91.8	91.9
≥ 800	54.5	83.5	86.4	88.7	90.8	91.3	92.0	92.4	92.4	92.7	92.8	92.8	92.9	92.9	93.0	93.1
≥ 700	54.8	83.9	87.0	89.3	91.6	92.2	92.9	93.3	93.3	93.6	93.8	93.8	93.9	93.9	94.0	94.1
≥ 600	54.8	84.0	87.2	89.7	92.1	92.7	93.6	94.2	94.2	94.5	94.7	94.7	94.8	94.8	95.0	95.1
≥ 500	54.8	84.4	87.7	90.3	93.0	93.7	95.0	95.6	95.6	96.1	96.2	96.2	96.3	96.4	96.5	96.6
≥ 400	54.8	84.5	87.8	90.6	93.6	94.5	96.1	96.9	97.0	97.5	97.8	97.8	97.9	97.9	98.0	98.2
≥ 300	54.8	84.5	87.9	90.8	93.9	94.8	96.6	97.5	97.5	98.2	98.5	98.5	98.7	98.7	98.8	99.0
≥ 200	54.8	84.5	87.9	90.8	93.9	94.9	96.7	97.7	97.7	98.4	98.8	98.8	99.1	99.1	99.3	99.4
≥ 100	54.8	84.5	87.9	90.8	93.9	94.9	96.7	97.8	97.8	98.6	98.9	98.9	99.3	99.3	99.4	99.8
≥ 0	54.8	84.5	87.9	90.8	93.9	94.9	96.7	97.8	97.8	98.6	98.9	98.9	99.3	99.3	99.5	100.0

TOTAL NUMBER OF OBSERVATIONS

6285

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

17839
STATION

PHILIPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

OCT
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0000-0200
HOURS

CEILING FEET	VISIBILITY STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1.4	≥1	≥.5	≥.4	≥.3	≥.25	≥.2	≥.1
NO CEILING	26.7	39.7	41.7	43.2	43.7	43.7	44.0	44.1	44.1	44.3	44.6	44.6	45.2	45.2	45.6	46.2
≥ 20000	27.6	42.1	44.1	45.7	46.2	46.2	46.5	46.6	46.6	46.8	47.1	47.1	47.7	47.7	48.1	48.7
≥ 18000	27.6	42.1	44.1	45.7	46.2	46.2	46.5	46.6	46.6	46.8	47.1	47.1	47.7	47.7	48.1	48.7
≥ 16000	27.6	42.1	44.1	45.7	46.2	46.2	46.5	46.6	46.6	46.8	47.1	47.1	47.7	47.7	48.1	48.7
≥ 14000	27.6	42.2	44.2	45.8	46.3	46.3	46.6	46.7	46.7	46.9	47.2	47.2	47.8	47.8	48.2	48.8
≥ 12000	27.8	42.7	44.7	46.3	46.8	46.8	47.1	47.2	47.2	47.4	47.7	47.7	48.3	48.3	48.7	49.3
≥ 10000	28.6	43.6	45.6	47.2	47.7	47.7	47.9	48.1	48.1	48.3	48.6	48.6	49.2	49.2	49.6	50.2
≥ 9000	28.9	43.8	45.8	47.4	47.9	47.9	48.2	48.3	48.3	48.6	48.8	48.8	49.4	49.4	49.8	50.4
≥ 8000	29.5	44.5	46.5	48.1	48.6	48.6	48.8	48.9	48.9	49.2	49.4	49.4	50.1	50.1	50.4	51.1
≥ 7000	30.4	45.5	47.5	49.2	49.7	49.7	49.9	50.1	50.1	50.3	50.6	50.6	51.2	51.2	51.6	52.2
≥ 6000	31.4	46.8	48.8	50.6	51.1	51.1	51.4	51.6	51.6	51.8	52.1	52.1	52.7	52.7	53.1	53.7
≥ 5000	33.3	49.3	51.4	53.1	53.9	53.9	54.3	54.4	54.4	54.7	54.9	54.9	55.5	55.5	55.9	56.5
≥ 4500	35.9	54.2	56.3	57.9	58.8	58.8	59.2	59.3	59.3	59.5	59.8	59.8	60.4	60.4	60.8	61.4
≥ 4000	36.4	55.0	57.2	58.8	59.7	59.7	60.0	60.1	60.1	60.4	60.6	60.6	61.3	61.3	61.6	62.3
≥ 3500	38.4	58.1	60.8	62.4	63.3	63.3	63.6	63.8	63.8	64.0	64.3	64.3	64.9	64.9	65.3	65.9
≥ 3000	40.4	62.3	64.4	66.0	66.9	66.9	67.2	67.4	67.4	67.6	67.9	67.9	68.5	68.5	68.9	69.5
≥ 2500	45.6	70.0	72.1	73.8	74.8	74.8	75.2	75.5	75.5	75.7	76.0	76.0	76.6	76.6	77.0	77.6
≥ 2000	48.1	73.6	75.8	77.6	78.6	78.6	79.0	79.3	79.3	79.6	79.8	79.8	80.4	80.4	80.8	81.4
≥ 1800	48.6	74.3	76.6	78.6	79.6	79.6	80.0	80.3	80.3	80.6	80.8	80.8	81.4	81.4	81.8	82.4
≥ 1500	50.3	79.3	81.9	84.4	85.7	85.7	86.2	86.6	86.6	86.8	87.0	87.0	87.7	87.7	88.0	88.7
≥ 1200	51.1	81.1	83.8	86.4	87.7	87.7	88.3	88.7	88.7	89.0	89.3	89.3	89.9	89.9	90.3	90.9
≥ 1000	51.4	82.7	85.9	88.5	90.0	90.2	90.9	91.3	91.3	91.7	91.9	91.9	92.5	92.5	92.9	93.5
≥ 900	51.4	82.8	86.1	89.0	90.5	90.7	91.4	91.8	91.8	92.2	92.4	92.4	93.0	93.0	93.4	94.0
≥ 800	51.6	83.1	86.3	89.3	90.8	91.0	92.0	92.4	92.4	92.8	93.0	93.0	93.6	93.6	94.0	94.6
≥ 700	51.6	83.4	86.8	89.8	91.3	91.7	92.7	93.0	93.0	93.4	93.6	93.6	94.3	94.3	94.6	95.3
≥ 600	51.6	83.6	86.9	90.2	91.7	92.0	93.0	93.4	93.4	93.8	94.0	94.0	94.6	94.6	95.0	95.6
≥ 500	51.7	83.7	87.0	90.3	92.0	92.4	93.4	93.8	93.8	94.1	94.4	94.4	95.0	95.0	95.4	96.0
≥ 400	51.7	83.7	87.3	90.7	92.4	92.8	93.9	94.3	94.3	94.6	94.9	94.9	95.5	95.5	95.9	96.5
≥ 300	51.7	83.7	87.3	90.8	92.7	93.0	94.1	94.5	94.5	95.1	95.4	95.4	96.0	96.0	96.4	97.0
≥ 200	51.7	83.7	87.3	90.8	92.7	93.0	94.1	94.6	94.6	95.4	95.6	95.6	96.3	96.3	96.6	97.3
≥ 100	51.7	83.7	87.3	90.8	92.7	93.0	94.3	95.0	95.0	95.9	96.3	96.3	97.0	97.0	97.8	99.1
≥ 0	51.7	83.7	87.3	90.8	92.7	93.0	94.3	95.0	95.0	95.9	96.3	96.3	97.0	97.0	97.9	100.0

TOTAL NUMBER OF OBSERVATIONS 803

USAF ETAC FORM 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

170337
STATION

PHILIPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

OCT
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

0500-0500
HOURS, LST

CEILING FEET	VISIBILITY, STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1	≥0.5	≥0.25	≥0.15	≥0.1	≥0.05	≥0.025	≥0
NO CEILING	24.1	39.1	40.8	41.7	42.4	42.8	43.8	43.8	43.9	44.3	44.8	44.8	45.3	45.3	45.3	45.8
≥20000	25.2	40.9	42.7	43.5	44.3	44.7	45.6	45.6	45.8	46.1	46.6	46.6	47.1	47.1	47.1	47.6
≥18000	25.2	40.9	42.7	43.5	44.3	44.7	45.6	45.6	45.8	46.1	46.6	46.6	47.1	47.1	47.1	47.6
≥16000	25.2	40.9	42.7	43.5	44.3	44.7	45.6	45.6	45.8	46.1	46.6	46.6	47.1	47.1	47.1	47.6
≥14000	25.2	40.9	42.7	43.5	44.3	44.7	45.6	45.6	45.8	46.1	46.6	46.6	47.1	47.1	47.1	47.6
≥12000	25.2	41.4	43.2	44.0	44.8	45.1	46.1	46.1	46.3	46.6	47.1	47.1	47.6	47.6	47.6	48.1
≥10000	25.6	41.8	43.5	44.4	45.1	45.5	46.5	46.5	46.6	47.0	47.5	47.5	48.0	48.0	48.0	48.5
≥9000	26.0	42.3	44.0	44.9	45.6	46.0	47.0	47.0	47.1	47.5	48.0	48.0	48.5	48.5	48.5	49.0
≥8000	27.0	43.3	45.0	45.9	46.6	47.0	48.0	48.0	48.1	48.5	49.0	49.0	49.5	49.5	49.5	50.0
≥7000	28.1	44.1	46.4	47.4	48.1	48.5	49.5	49.5	49.6	50.0	50.5	50.5	51.0	51.0	51.0	51.5
≥6000	29.4	46.1	48.1	49.4	50.1	50.5	51.5	51.5	51.6	52.0	52.5	52.5	53.0	53.0	53.0	53.5
≥5000	31.2	48.6	50.7	52.2	53.1	53.5	54.5	54.5	54.6	55.0	55.5	55.5	56.1	56.1	56.1	56.6
≥4500	32.7	51.4	53.6	55.1	56.0	56.3	57.3	57.3	57.6	58.3	58.8	58.8	59.5	59.5	59.5	60.0
≥4000	32.8	52.4	54.6	56.1	57.0	57.3	58.5	58.5	58.7	59.6	60.1	60.1	60.7	60.7	60.7	61.2
≥3500	35.3	55.6	57.8	59.3	60.2	60.6	61.7	61.7	61.9	62.8	63.3	63.3	63.9	63.9	63.9	64.4
≥3000	38.4	60.2	62.8	64.7	65.7	66.0	67.2	67.2	67.4	68.3	68.8	68.8	69.4	69.4	69.4	69.9
≥2500	42.3	67.0	69.8	71.8	72.8	73.3	74.4	74.4	74.6	75.5	76.0	76.0	76.6	76.6	76.6	77.1
≥2000	45.6	72.3	75.4	77.7	78.9	79.4	80.6	80.6	81.0	81.8	82.5	82.5	83.1	83.1	83.1	83.6
≥1800	47.0	73.8	76.9	79.2	80.3	80.8	82.2	82.2	82.6	83.5	84.1	84.1	84.7	84.7	84.7	85.2
≥1500	48.3	76.5	79.7	82.7	83.8	84.3	85.7	85.7	86.1	86.9	87.6	87.6	88.2	88.2	88.2	88.7
≥1200	49.1	78.6	81.8	85.0	86.2	86.7	88.1	88.1	88.4	89.3	89.9	89.9	90.5	90.5	90.5	91.0
≥1000	49.4	79.7	83.1	86.6	87.9	88.4	90.0	90.0	90.4	91.4	92.0	92.0	92.7	92.7	92.7	93.2
≥900	49.4	80.0	83.5	86.9	88.3	88.8	90.4	90.4	90.8	91.8	92.4	92.4	93.0	93.0	93.0	93.5
≥800	49.4	80.2	83.8	87.3	89.1	89.7	91.4	91.5	91.9	92.9	93.5	93.5	94.2	94.2	94.2	94.7
≥700	49.5	80.6	84.2	87.7	89.7	90.3	92.0	92.2	92.5	93.5	94.2	94.2	94.8	94.8	94.8	95.3
≥600	49.6	81.0	84.7	88.2	90.2	90.8	92.5	92.8	93.2	94.2	94.8	94.8	95.4	95.4	95.4	95.9
≥500	49.6	81.0	84.7	88.7	90.8	91.4	93.4	93.7	94.0	95.0	95.6	95.6	96.3	96.3	96.3	96.8
≥400	49.6	81.0	84.8	88.8	91.0	91.7	93.9	94.3	94.7	95.8	96.4	96.4	97.0	97.0	97.0	97.5
≥300	49.6	81.0	84.8	88.8	91.0	91.7	94.0	94.4	94.8	96.1	96.8	96.8	97.4	97.4	97.4	97.9
≥200	49.6	81.0	84.8	88.8	91.0	91.7	94.4	94.9	95.3	96.6	97.3	97.3	97.9	97.9	98.0	98.5
≥100	49.6	81.0	84.8	88.8	91.0	91.7	94.4	94.9	95.3	96.6	97.3	97.3	98.1	98.1	98.5	99.1
≥0	49.6	81.0	84.8	88.8	91.0	91.7	94.4	94.9	95.3	96.6	97.3	97.3	98.1	98.1	98.9	100.0

TOTAL NUMBER OF OBSERVATIONS

804

USAF ETAC

FORM
JUL 66

0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

STATION PHELPS-COLLINS/ALPENA MI

73-81

OCT

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

3600-0000
FOUR DAY

CEILING FEET	VISIBILITY STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1.25	≥ 1	≥ .75	≥ .5	≥ .25	≥ .1	≥ .05	≥ 0
NO CEILING ≥ 20000	20.5	32.3	33.6	35.4	36.3	36.7	37.4	38.0	38.1	38.8	39.2	39.2	39.2	39.6	40.1	40.3
≥ 18000	22.4	35.9	37.3	38.6	40.1	40.5	41.2	41.8	41.9	42.5	43.0	43.0	43.0	43.4	43.9	44.1
≥ 16000	22.5	36.1	37.4	38.8	40.2	40.6	41.3	41.9	42.1	42.7	43.2	43.2	43.2	43.5	44.0	44.3
≥ 14000	22.5	36.1	37.4	38.8	40.2	40.6	41.3	41.9	42.1	42.7	43.2	43.2	43.2	43.5	44.0	44.3
≥ 12000	22.5	36.1	37.5	38.9	40.3	40.7	41.4	42.1	42.2	42.8	43.3	43.3	43.3	43.6	44.1	44.4
≥ 10000	23.1	36.8	38.4	39.7	41.3	41.7	42.4	43.0	43.2	43.8	44.3	44.3	44.3	44.6	45.1	45.4
≥ 9000	24.3	38.3	39.9	41.2	42.8	43.2	43.9	44.6	44.7	45.4	45.8	45.8	45.8	46.2	46.7	46.9
≥ 8000	24.4	38.9	40.5	41.8	43.4	43.8	44.5	45.2	45.4	46.0	46.5	46.5	46.5	46.8	47.3	47.6
≥ 7000	25.1	39.9	41.4	42.8	44.5	45.0	45.8	46.7	46.8	47.4	47.9	47.9	48.0	48.4	49.0	49.3
≥ 6000	26.3	41.4	43.0	44.4	46.1	46.6	47.4	48.3	48.4	49.0	49.5	49.5	49.6	50.0	50.6	50.9
≥ 5000	27.5	42.9	44.5	45.8	47.6	48.0	49.0	49.9	50.0	50.6	51.3	51.3	51.5	51.8	52.4	52.7
≥ 4500	28.7	45.5	47.1	48.4	50.1	50.6	51.8	52.7	52.8	53.4	54.2	54.2	54.5	54.8	55.3	55.5
≥ 4000	30.9	47.9	49.6	51.0	52.7	53.2	54.4	55.3	55.4	56.0	56.8	56.8	57.0	57.3	57.9	58.3
≥ 3500	31.7	49.6	51.3	52.7	54.4	54.9	56.1	57.1	57.2	57.8	58.7	58.7	58.8	59.2	59.8	60.1
≥ 3000	33.4	52.9	54.9	56.2	58.1	58.6	59.8	60.8	60.9	61.5	62.3	62.3	62.5	62.8	63.4	63.8
≥ 2500	35.6	56.7	58.8	60.4	62.2	62.7	64.2	65.2	65.3	65.9	66.7	66.7	66.9	67.2	67.8	68.2
≥ 2000	38.1	61.0	63.1	65.3	67.4	67.8	69.3	70.4	70.5	71.1	72.0	72.0	72.1	72.5	73.2	73.6
≥ 1800	41.3	65.5	67.7	70.3	72.6	73.3	74.8	76.0	76.3	76.9	77.8	77.8	77.9	78.2	79.0	79.3
≥ 1600	42.5	67.5	69.7	72.2	74.6	75.3	76.8	78.0	78.2	78.9	79.7	79.7	79.8	80.2	80.9	81.3
≥ 1500	44.9	71.1	73.8	76.8	79.3	80.2	81.8	83.0	83.3	84.0	84.8	84.8	85.0	85.3	86.1	86.4
≥ 1200	45.6	72.2	74.9	77.9	80.8	81.7	83.4	84.6	84.8	85.7	86.6	86.6	86.7	87.0	87.8	88.1
≥ 1000	45.8	73.2	76.3	79.3	82.3	83.3	85.1	86.3	86.6	87.4	88.3	88.3	88.4	88.8	89.5	89.9
≥ 900	46.1	73.7	76.8	80.1	83.3	84.4	86.2	87.4	87.7	88.5	89.4	89.4	89.5	89.9	90.6	91.0
≥ 800	46.1	74.4	77.6	81.2	84.6	85.7	87.5	88.8	89.1	90.0	90.8	90.8	91.0	91.3	92.1	92.4
≥ 700	46.3	74.7	78.4	82.2	85.9	87.0	88.9	90.1	90.5	91.3	92.2	92.2	92.3	92.7	93.4	93.8
≥ 600	46.3	74.9	78.7	82.5	86.4	87.5	89.7	91.0	91.4	92.5	93.4	93.4	93.5	93.9	94.6	95.0
≥ 500	46.3	75.1	79.1	82.9	87.0	88.3	90.7	91.9	92.7	93.8	94.6	94.6	94.7	95.1	95.8	96.2
≥ 400	46.3	75.1	79.2	83.0	87.2	88.4	90.8	92.1	92.9	94.0	94.9	94.9	95.0	95.5	96.2	96.6
≥ 300	46.3	75.2	79.5	83.3	87.4	88.6	91.1	92.3	93.2	94.5	95.4	95.5	95.8	96.3	97.2	97.9
≥ 200	46.3	75.2	79.6	83.4	87.7	88.9	91.3	92.5	93.4	94.9	95.8	96.0	96.3	96.8	97.9	98.9
≥ 100	46.3	75.2	79.6	83.4	87.7	88.9	91.4	92.7	93.5	95.0	96.0	96.1	96.5	97.1	98.2	99.4
≥ 0	46.3	75.2	79.6	83.4	87.7	88.9	91.4	92.7	93.5	95.0	96.0	96.1	96.5	97.1	98.3	100.0

TOTAL NUMBER OF OBSERVATIONS 818

USAF ETAC FORM 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

126391 PHELPS-COLLINS/ALPENA MI

73-81

OCT

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0900-1100

CEILING FEET	VISIBILITY - STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1.4	≥1	≥.8	≥.6	≥.5	≥.4	≥.3	≥.2
NO CEILING ≥ 20000	21.7	32.7	33.8	34.4	34.8	35.2	35.3	35.3	35.4	35.5	35.7	35.7	35.7	35.7	35.7	35.7
IV 18000	24.1	36.8	37.9	38.5	38.8	39.2	39.5	39.5	39.6	39.8	40.0	40.0	40.0	40.0	40.0	40.0
IV 16000	24.5	37.1	38.4	39.0	39.3	39.7	40.0	40.0	40.1	40.3	40.4	40.4	40.4	40.4	40.4	40.4
IV 14000	24.8	37.4	38.6	39.2	39.7	40.1	40.3	40.3	40.4	40.7	40.8	40.8	40.8	40.8	40.8	40.8
IV 12000	25.2	38.5	39.7	40.3	40.8	41.2	41.4	41.4	41.5	41.8	41.9	41.9	41.9	41.9	41.9	41.9
IV 10000	26.3	40.6	42.0	42.6	43.3	43.6	43.9	43.9	44.0	44.2	44.4	44.4	44.4	44.4	44.4	44.4
IV 9000	26.3	41.3	42.8	43.4	44.0	44.5	44.7	44.7	44.9	45.1	45.2	45.2	45.2	45.2	45.2	45.2
IV 8000	27.8	43.1	44.6	45.3	46.4	47.1	47.3	47.3	47.4	47.8	47.9	47.9	47.9	47.9	47.9	47.9
IV 7000	29.2	44.7	46.2	46.9	48.0	48.7	48.9	48.9	49.0	49.4	49.5	49.5	49.5	49.5	49.5	49.5
IV 6000	29.9	45.7	47.2	47.9	49.0	49.6	49.9	49.9	50.0	50.4	50.5	50.5	50.5	50.5	50.5	50.5
IV 5000	31.0	47.3	48.8	49.5	50.6	51.2	51.5	51.5	51.6	52.0	52.1	52.1	52.1	52.1	52.1	52.1
IV 4500	32.4	49.8	50.2	51.1	52.3	52.9	53.2	53.2	53.3	53.7	53.8	53.8	53.8	53.8	53.8	53.8
IV 4000	33.8	50.4	51.8	52.7	54.0	54.8	55.0	55.0	55.1	55.5	55.6	55.6	55.6	55.6	55.6	55.6
IV 3500	35.7	53.8	55.4	56.4	58.0	58.7	58.9	58.9	59.1	59.4	59.6	59.6	59.7	59.7	59.7	59.7
IV 3000	37.6	58.0	59.7	60.7	62.5	63.2	63.5	63.5	63.6	64.0	64.1	64.1	64.2	64.2	64.2	64.2
IV 2500	40.9	63.1	65.2	66.3	68.3	69.0	69.2	69.4	69.5	70.0	70.1	70.1	70.2	70.2	70.2	70.2
IV 2000	44.9	68.5	70.8	72.2	74.4	75.1	75.4	75.5	75.6	76.1	76.2	76.2	76.3	76.3	76.3	76.3
IV 1800	46.6	71.1	73.5	74.9	77.1	77.8	78.1	78.2	78.3	78.6	78.9	78.9	79.0	79.0	79.0	79.0
IV 1500	49.6	77.7	80.4	81.9	84.3	85.0	85.3	85.4	85.5	86.0	86.2	86.2	86.3	86.3	86.3	86.3
IV 1200	50.6	79.4	82.5	84.1	86.6	87.4	87.6	87.7	87.9	88.5	88.6	88.6	88.7	88.7	88.7	88.7
IV 1000	51.0	80.1	83.6	85.3	88.1	88.8	89.2	89.5	89.6	90.2	90.3	90.3	90.4	90.4	90.4	90.4
IV 900	51.3	80.5	83.9	85.8	88.6	89.3	89.7	90.0	90.1	90.7	90.8	90.8	90.9	90.9	90.9	90.9
IV 800	51.1	81.7	85.2	87.1	90.0	90.7	91.1	91.3	91.4	92.0	92.2	92.2	92.3	92.3	92.3	92.3
IV 700	51.1	82.1	85.7	87.6	90.9	91.7	92.2	92.5	92.6	93.4	93.5	93.5	93.6	93.6	93.6	93.6
IV 600	51.1	82.5	86.3	88.2	91.5	92.3	93.1	93.5	93.6	94.4	94.5	94.5	94.6	94.6	94.6	94.6
IV 500	51.1	82.6	86.9	88.8	92.3	93.1	94.1	94.9	95.0	95.7	95.8	95.8	96.0	96.0	96.0	96.0
IV 400	51.1	82.7	87.1	89.2	93.1	94.0	95.0	96.3	96.4	97.7	97.8	97.8	97.9	97.9	97.9	97.9
IV 300	51.1	82.8	87.4	89.5	93.5	94.5	95.5	97.1	97.2	98.5	98.7	98.7	98.8	98.8	98.8	98.8
IV 200	51.1	82.8	87.5	89.7	93.8	94.9	96.0	97.5	97.7	99.3	99.5	99.5	99.6	99.6	99.6	99.6
IV 100	51.1	82.8	87.5	89.7	93.8	94.9	96.0	97.5	97.7	99.3	99.5	99.5	99.6	99.6	99.6	99.6
IV 0	51.1	82.8	87.5	89.7	93.8	94.9	96.0	97.5	97.7	99.3	99.5	99.5	99.6	99.6	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 816

USAF ETAC FORM 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
UNAFETAL
AIR WEATHER SERVICE/MAL

CEILING VERSUS VISIBILITY

72639
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

OCT
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1200-1400
HOURS

CEILING FEET	VISIBILITY STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1	≥0.5	≥0.25	≥0.1	≥0.05	≥0.025	≥0.01	≥0
NO CEILING ≥ 20000	22.5	33.6	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.9
≥ 18000	25.6	37.9	38.3	38.4	38.5	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6
≥ 16000	25.6	37.9	38.3	38.4	38.5	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6
≥ 14000	25.6	38.0	38.4	38.5	38.6	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7
≥ 12000	26.2	38.9	39.4	39.5	39.7	39.9	39.9	39.9	39.9	39.9	39.9	39.9	39.9	39.9	39.9	39.9
≥ 10000	27.8	40.8	41.3	41.5	41.7	41.8	41.8	41.8	41.8	41.8	41.8	41.8	41.8	41.8	41.8	41.8
≥ 9000	28.8	42.2	42.7	42.8	43.1	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2
≥ 8000	29.5	44.0	44.5	44.6	45.1	45.3	45.3	45.3	45.3	45.3	45.3	45.3	45.3	45.3	45.3	45.3
≥ 7000	30.8	45.6	46.1	46.4	46.9	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0
≥ 6000	31.9	46.9	47.4	47.7	48.2	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3
≥ 5000	32.4	48.1	48.7	49.2	49.9	50.1	50.1	50.1	50.1	50.1	50.1	50.1	50.1	50.1	50.1	50.1
≥ 4500	34.2	49.8	50.4	50.9	51.8	51.9	51.9	51.9	51.9	51.9	51.9	51.9	51.9	51.9	51.9	51.9
≥ 4000	35.3	51.2	51.8	52.3	53.1	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3
≥ 3500	39.2	56.6	57.2	57.8	58.8	58.9	58.9	58.9	58.9	58.9	58.9	58.9	58.9	58.9	58.9	58.9
≥ 3000	42.4	61.7	62.4	63.1	64.3	64.5	64.5	64.6	64.6	64.6	64.6	64.6	64.6	64.6	64.6	64.6
≥ 2500	47.4	70.4	71.2	72.0	73.2	73.3	73.3	73.4	73.4	73.4	73.4	73.4	73.4	73.4	73.4	73.4
≥ 2000	53.3	78.4	79.3	80.1	81.3	81.5	81.5	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7
≥ 1800	54.4	80.4	81.5	82.3	83.5	83.8	83.8	83.9	83.9	83.9	83.9	83.9	83.9	83.9	83.9	83.9
≥ 1500	57.2	85.6	87.4	88.8	90.0	90.5	90.5	90.7	90.7	90.7	90.7	90.7	90.7	90.7	90.7	90.7
≥ 1200	57.6	87.9	89.3	90.3	91.5	92.0	92.0	92.1	92.1	92.1	92.1	92.1	92.1	92.1	92.1	92.1
≥ 1000	57.7	88.9	90.4	91.4	93.0	93.5	93.5	93.7	93.7	93.7	93.7	93.7	93.7	93.7	93.7	93.7
≥ 900	57.7	89.5	91.1	92.4	94.0	94.5	94.5	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7
≥ 800	57.7	90.0	91.8	93.0	94.6	95.1	95.1	95.3	95.3	95.3	95.3	95.3	95.3	95.3	95.3	95.3
≥ 700	57.7	90.7	92.4	93.7	95.6	96.1	96.2	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4
≥ 600	58.1	91.0	93.0	94.7	96.7	97.3	97.5	97.9	97.9	97.9	97.9	97.9	97.9	97.9	97.9	97.9
≥ 500	58.1	91.3	93.2	95.1	97.2	97.8	98.0	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5
≥ 400	58.1	91.4	93.4	95.3	97.4	98.0	98.3	99.3	99.4	99.6	99.6	99.6	99.6	99.6	99.6	99.6
≥ 300	58.1	91.4	93.4	95.3	97.4	98.0	98.4	99.5	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0
≥ 200	58.1	91.4	93.4	95.3	97.4	98.0	98.4	99.5	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0
≥ 100	58.1	91.4	93.4	95.3	97.4	98.0	98.4	99.5	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0
≥ 0	58.1	91.4	93.4	95.3	97.4	98.0	98.4	99.5	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 813

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAL

CEILING VERSUS VISIBILITY

106390
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

OCI
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1500-1700
HOURS LST

CEILING FEET	VISIBILITY STATUTE MILES															
	≥10	≥8	≥5	≥4	≥3	≥2 1/2	≥2	≥1 1/2	≥1 1/4	≥1	≥3/4	≥1/2	≥1/4	≥1/8	≥1/16	≥0
NO CEILING	23.9	35.5	35.7	35.9	36.2	36.2	36.2	36.2	36.2	36.2	36.2	36.2	36.2	36.2	36.2	36.2
≥ 20000	26.7	39.9	40.5	40.6	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1
≥ 18000	26.8	40.0	40.6	40.8	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2
≥ 16000	26.8	40.0	40.6	40.8	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2
≥ 14000	27.2	40.6	41.2	41.4	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9
≥ 12000	27.5	41.2	42.1	42.2	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7
≥ 10000	29.4	43.1	43.9	44.1	44.6	44.6	44.6	44.6	44.6	44.6	44.6	44.6	44.6	44.6	44.6	44.6
≥ 9000	29.7	43.5	44.3	44.4	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9
≥ 8000	30.6	45.5	46.6	46.8	47.2	47.2	47.2	47.2	47.2	47.2	47.2	47.2	47.2	47.2	47.2	47.2
≥ 7000	31.5	46.6	47.9	48.0	48.5	48.5	48.5	48.5	48.5	48.5	48.5	48.5	48.5	48.5	48.5	48.5
≥ 6000	32.7	48.1	49.2	49.3	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8
≥ 5000	33.5	49.3	50.4	50.6	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0
≥ 4500	36.1	53.1	54.2	54.3	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0
≥ 4000	37.1	54.3	55.4	55.6	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2
≥ 3500	40.1	58.5	59.6	59.7	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3
≥ 3000	45.7	65.6	66.8	67.2	67.9	67.9	67.9	67.9	67.9	67.9	67.9	67.9	67.9	67.9	67.9	67.9
≥ 2500	51.3	73.9	75.5	76.1	77.0	77.0	77.1	77.1	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2
≥ 2000	55.8	82.5	84.1	84.7	85.6	85.6	85.7	85.8	85.8	85.9	85.9	85.9	85.9	85.9	85.9	85.9
≥ 1800	57.3	84.7	86.3	86.9	87.9	87.9	88.0	88.1	88.1	88.2	88.2	88.2	88.2	88.2	88.2	88.2
≥ 1500	58.8	87.9	89.5	90.2	91.3	91.3	91.6	91.7	91.7	91.9	92.0	92.0	92.0	92.0	92.0	92.0
≥ 1200	59.2	88.9	90.6	91.4	92.7	92.7	92.9	93.0	93.0	93.3	93.4	93.4	93.4	93.4	93.4	93.4
≥ 1000	59.2	90.1	92.2	93.4	94.6	94.6	94.9	95.2	95.2	95.5	95.6	95.6	95.6	95.6	95.6	95.6
≥ 900	59.2	90.2	92.3	93.5	94.7	94.7	95.0	95.3	95.3	95.7	95.8	95.8	95.8	95.8	95.8	95.8
≥ 800	59.2	90.3	92.5	93.8	95.0	95.0	95.3	95.7	95.7	96.1	96.2	96.2	96.2	96.2	96.2	96.2
≥ 700	59.5	90.8	93.1	94.4	95.8	95.8	96.2	96.6	96.6	96.9	97.1	97.1	97.1	97.1	97.1	97.1
≥ 600	59.5	91.1	93.4	94.6	96.1	96.1	96.5	96.8	96.8	97.2	97.3	97.3	97.3	97.3	97.3	97.3
≥ 500	59.5	91.2	93.6	95.1	97.1	97.2	97.6	97.9	97.9	98.4	98.7	98.7	98.7	98.7	98.7	98.7
≥ 400	59.5	91.2	93.6	95.1	97.2	97.3	97.7	98.3	98.5	99.1	99.5	99.5	99.6	99.6	99.6	99.6
≥ 300	59.5	91.2	93.6	95.1	97.2	97.3	97.7	98.3	98.5	99.4	99.8	99.8	99.9	99.9	99.9	99.9
≥ 200	59.5	91.2	93.6	95.1	97.2	97.3	97.7	98.3	98.5	99.4	99.8	99.8	99.9	99.9	99.9	99.9
≥ 100	59.5	91.2	93.6	95.1	97.2	97.3	97.7	98.3	98.5	99.4	99.8	99.8	99.9	99.9	99.9	99.9
≥ 0	59.5	91.2	93.6	95.1	97.2	97.3	97.7	98.3	98.5	99.4	99.8	99.8	99.9	99.9	99.9	UU.U

TOTAL NUMBER OF OBSERVATIONS 817

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

120340
STATION

PHILIPS-COLLINS/ALPENA MI
STATION NAME

13-81
YEARS

PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

CEILING FEET	VISIBILITY (STATUTE MILES)															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1.4	≥1	≥.5	≥.4	≥.3	≥.25	≥.2	≥.1
NO CEILING ≥ 20000	25.7	37.0	37.5	38.6	39.1	39.3	39.3	39.3	39.4	39.4	39.4	39.4	39.4	39.4	39.4	39.4
≥ 18000	27.1	39.4	40.2	41.4	41.9	42.1	42.4	42.4	42.5	42.5	42.5	42.5	42.5	42.5	42.5	42.5
≥ 16000	27.3	39.6	40.3	41.5	42.0	42.3	42.5	42.5	42.6	42.6	42.6	42.6	42.6	42.6	42.6	42.6
≥ 14000	27.5	39.8	40.5	41.7	42.2	42.5	42.7	42.7	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8
≥ 12000	27.7	40.0	40.7	41.9	42.4	42.7	43.0	43.0	43.1	43.1	43.1	43.1	43.1	43.1	43.1	43.1
≥ 10000	27.9	40.2	40.9	42.1	42.6	42.9	43.2	43.2	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3
≥ 9000	28.1	40.4	41.1	42.3	42.8	43.1	43.4	43.4	43.5	43.5	43.5	43.5	43.5	43.5	43.5	43.5
≥ 8000	28.3	40.6	41.3	42.5	43.0	43.3	43.6	43.6	43.7	43.7	43.7	43.7	43.7	43.7	43.7	43.7
≥ 7000	28.5	40.8	41.5	42.7	43.2	43.5	43.8	43.8	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9
≥ 6000	28.7	41.0	41.7	42.9	43.4	43.7	44.0	44.0	44.1	44.1	44.1	44.1	44.1	44.1	44.1	44.1
≥ 5000	28.9	41.2	41.9	43.1	43.6	43.9	44.2	44.2	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3
≥ 4500	29.1	41.4	42.1	43.3	43.8	44.1	44.4	44.4	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5
≥ 4000	29.3	41.6	42.3	43.5	44.0	44.3	44.6	44.6	44.7	44.7	44.7	44.7	44.7	44.7	44.7	44.7
≥ 3500	29.5	41.8	42.5	43.7	44.2	44.5	44.8	44.8	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9
≥ 3000	29.7	42.0	42.7	43.9	44.4	44.7	45.0	45.0	45.1	45.1	45.1	45.1	45.1	45.1	45.1	45.1
≥ 2500	29.9	42.2	42.9	44.1	44.6	44.9	45.2	45.2	45.3	45.3	45.3	45.3	45.3	45.3	45.3	45.3
≥ 2000	30.1	42.4	43.1	44.3	44.8	45.1	45.4	45.4	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5
≥ 1800	30.3	42.6	43.3	44.5	45.0	45.3	45.6	45.6	45.7	45.7	45.7	45.7	45.7	45.7	45.7	45.7
≥ 1500	30.5	42.8	43.5	44.7	45.2	45.5	45.8	45.8	45.9	45.9	45.9	45.9	45.9	45.9	45.9	45.9
≥ 1200	30.7	43.0	43.7	44.9	45.4	45.7	46.0	46.0	46.1	46.1	46.1	46.1	46.1	46.1	46.1	46.1
≥ 1000	30.9	43.2	43.9	45.1	45.6	45.9	46.2	46.2	46.3	46.3	46.3	46.3	46.3	46.3	46.3	46.3
≥ 900	31.1	43.4	44.1	45.3	45.8	46.1	46.4	46.4	46.5	46.5	46.5	46.5	46.5	46.5	46.5	46.5
≥ 800	31.3	43.6	44.3	45.5	46.0	46.3	46.6	46.6	46.7	46.7	46.7	46.7	46.7	46.7	46.7	46.7
≥ 700	31.5	43.8	44.5	45.7	46.2	46.5	46.8	46.8	46.9	46.9	46.9	46.9	46.9	46.9	46.9	46.9
≥ 600	31.7	44.0	44.7	45.9	46.4	46.7	47.0	47.0	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1
≥ 500	31.9	44.2	44.9	46.1	46.6	46.9	47.2	47.2	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3
≥ 400	32.1	44.4	45.1	46.3	46.8	47.1	47.4	47.4	47.5	47.5	47.5	47.5	47.5	47.5	47.5	47.5
≥ 300	32.3	44.6	45.3	46.5	47.0	47.3	47.6	47.6	47.7	47.7	47.7	47.7	47.7	47.7	47.7	47.7
≥ 200	32.5	44.8	45.5	46.7	47.2	47.5	47.8	47.8	47.9	47.9	47.9	47.9	47.9	47.9	47.9	47.9
≥ 100	32.7	45.0	45.7	46.9	47.4	47.7	48.0	48.0	48.1	48.1	48.1	48.1	48.1	48.1	48.1	48.1
≥ 0	32.9	45.2	45.9	47.1	47.6	47.9	48.2	48.2	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3

TOTAL NUMBER OF OBSERVATIONS 814

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

160390
STATION

PHILIPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

OCT
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

2100-2300
HOURS, U.S.T.

CEILING FEET	VISIBILITY (STATUTE MILES)															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1.0	≥1	≥.5	≥.4	≥.3	≥.25	≥.2	≥.0
NO CEILING ≥ 20000	26.8 28.1	37.6 40.0	39.1 41.4	40.0 42.3	41.0 43.4	41.0 43.4	41.0 43.4	41.0 43.4	41.0 43.4	41.4 43.7	41.5 43.8	41.5 43.8	41.7 44.0	41.7 44.0	41.8 44.1	42.3 44.6
IV 18000	28.1	40.0	41.4	42.3	43.4	43.4	43.4	43.4	43.4	43.7	43.8	43.8	44.0	44.0	44.1	44.6
IV 16000	28.1	40.0	41.4	42.3	43.4	43.4	43.4	43.4	43.4	43.7	43.8	43.8	44.0	44.0	44.1	44.6
IV 14000	28.1	40.0	41.4	42.3	43.4	43.4	43.4	43.4	43.4	43.7	43.8	43.8	44.0	44.0	44.1	44.6
IV 12000	28.1	40.0	41.4	42.3	43.4	43.4	43.4	43.4	43.4	43.7	43.8	43.8	44.0	44.0	44.1	44.6
IV 10000	28.7	41.0	43.2	44.1	45.2	45.2	45.2	45.2	45.2	45.6	45.7	45.7	45.8	45.8	45.9	46.4
IV 9000	28.9	41.2	43.4	44.2	45.3	45.3	45.3	45.3	45.3	45.7	45.8	45.8	45.9	45.9	46.0	46.5
IV 8000	30.1	42.5	44.7	45.6	46.8	46.8	46.8	46.8	46.8	47.1	47.3	47.3	47.4	47.4	47.5	48.0
IV 7000	31.7	44.3	46.8	47.9	49.1	49.1	49.1	49.1	49.1	49.5	49.6	49.6	49.7	49.7	49.8	50.3
IV 6000	32.4	45.9	48.0	49.7	51.0	51.0	51.0	51.0	51.0	51.4	51.5	51.5	51.6	51.6	51.8	52.3
IV 5000	35.0	48.6	51.4	52.5	54.1	54.1	54.1	54.1	54.1	54.4	54.6	54.6	54.7	54.7	54.8	55.3
IV 4500	37.6	52.1	55.4	56.6	58.2	58.2	58.2	58.2	58.2	58.6	58.7	58.7	58.8	58.8	59.0	59.4
IV 4000	38.1	53.5	56.9	58.1	59.7	59.7	59.7	59.7	59.7	60.0	60.2	60.2	60.3	60.3	60.4	60.9
IV 3500	41.4	58.2	61.6	62.9	64.4	64.4	64.4	64.4	64.4	64.8	64.9	64.9	65.0	65.0	65.2	65.7
IV 3000	45.0	64.7	68.1	69.3	70.9	70.9	70.9	70.9	70.9	71.3	71.4	71.4	71.5	71.5	71.6	72.1
IV 2500	48.6	71.4	74.9	76.4	78.0	78.0	78.2	78.2	78.2	78.6	78.7	78.7	78.8	78.8	78.9	79.4
IV 2000	50.7	77.8	81.7	83.2	85.0	85.0	85.3	85.4	85.4	85.7	85.9	85.9	86.0	86.0	86.1	86.6
IV 1800	51.0	78.7	82.6	84.0	86.0	86.0	86.2	86.4	86.4	86.7	87.0	87.0	87.1	87.1	87.2	87.7
IV 1500	53.0	82.1	86.7	88.2	90.4	90.4	90.6	90.7	90.7	91.2	91.5	91.5	91.6	91.6	91.7	92.2
IV 1200	53.1	83.1	87.8	89.3	91.5	91.5	91.7	91.8	91.8	92.3	92.6	92.6	92.7	92.7	92.8	93.3
IV 1000	53.5	84.0	89.2	91.0	93.2	93.3	93.5	93.7	93.7	94.2	94.4	94.4	94.5	94.5	94.6	95.1
IV 900	53.6	84.4	89.6	91.6	93.8	93.9	94.2	94.3	94.3	94.8	95.0	95.0	95.1	95.1	95.2	95.7
IV 800	53.6	84.8	90.1	92.3	94.5	94.6	94.9	95.0	95.0	95.5	95.7	95.7	95.9	95.9	96.0	96.5
IV 700	53.6	85.1	90.5	92.7	94.9	95.0	95.2	95.4	95.4	95.9	96.1	96.1	96.2	96.2	96.3	96.8
IV 600	53.6	85.3	90.6	92.8	95.1	95.2	95.5	95.6	95.6	96.1	96.3	96.3	96.5	96.5	96.6	97.1
IV 500	53.6	85.3	90.6	92.8	95.1	95.2	95.5	95.6	95.6	96.1	96.3	96.3	96.5	96.5	96.6	97.1
IV 400	53.6	85.4	90.7	92.9	95.2	95.6	96.1	96.2	96.2	96.8	97.1	97.1	97.2	97.2	97.3	97.8
IV 300	53.6	85.4	90.7	92.9	95.4	95.7	96.2	96.3	96.3	97.2	97.6	97.6	97.8	97.8	97.9	98.4
IV 200	53.6	85.4	90.7	92.9	95.4	95.7	96.2	96.6	96.6	97.7	98.1	98.1	98.3	98.3	98.4	98.9
IV 100	53.6	85.4	90.7	92.9	95.4	95.7	96.2	96.8	96.8	98.1	98.4	98.4	98.8	98.8	98.9	99.5
IV 0	53.6	85.4	90.7	92.9	95.4	95.7	96.2	96.8	96.8	98.1	98.4	98.4	98.8	98.8	98.9	100.0

TOTAL NUMBER OF OBSERVATIONS 521

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

12639

PHILIPS-COLLINS/ALPENA MI

73-81

OCT

STATION

STATION NAME

YEAR

MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

ALL
HOURS LST

CEILING FEET	VISIBILITY - STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1.25	≥1	≥.75	≥.5	≥.25	≥.16	≥.1	≥0
NO CEILING	24.0	33.9	31.0	31.8	38.4	38.6	38.9	38.9	39.0	39.2	39.4	39.4	39.6	39.6	39.7	40.0
≥ 20000	25.9	39.1	40.5	41.1	41.8	41.9	42.3	42.3	42.4	42.6	42.8	42.8	43.0	43.0	43.1	43.4
IN 18000	26.0	39.2	40.4	41.2	41.9	42.1	42.4	42.5	42.5	42.8	42.9	42.9	43.1	43.1	43.3	43.5
IN 16000	26.0	39.2	40.4	41.2	41.9	42.1	42.4	42.5	42.5	42.8	42.9	42.9	43.1	43.1	43.3	43.5
IN 14000	26.1	39.4	40.6	41.5	42.1	42.3	42.6	42.7	42.8	43.0	43.2	43.2	43.4	43.4	43.5	43.8
IN 12000	26.4	40.2	41.6	42.4	43.1	43.3	43.6	43.7	43.8	44.0	44.2	44.2	44.3	44.4	44.5	44.7
IN 10000	27.5	41.5	43.0	43.8	44.5	44.7	45.0	45.1	45.2	45.4	45.6	45.6	45.8	45.8	45.9	46.2
IN 9000	27.8	42.0	43.5	44.3	45.1	45.3	45.6	45.7	45.7	46.0	46.1	46.1	46.3	46.3	46.5	46.7
IN 8000	28.8	43.5	45.0	45.8	46.7	47.0	47.3	47.4	47.5	47.7	47.9	47.9	48.1	48.1	48.2	48.5
IN 7000	30.1	45.1	46.7	47.6	48.5	48.7	49.0	49.2	49.2	49.5	49.7	49.7	49.8	49.9	50.0	50.2
IN 6000	31.3	46.6	48.2	49.2	50.1	50.3	50.6	50.8	50.8	51.1	51.3	51.3	51.5	51.5	51.6	51.9
IN 5000	32.7	48.3	50.2	51.2	52.2	52.5	52.8	53.0	53.0	53.3	53.5	53.5	53.7	53.7	53.9	54.1
IN 4500	34.7	51.5	53.3	54.3	55.4	55.6	56.0	56.1	56.2	56.5	56.7	56.7	56.9	57.0	57.1	57.3
IN 4000	35.5	52.9	54.7	55.7	56.8	57.1	57.5	57.6	57.7	58.0	58.2	58.2	58.4	58.4	58.6	58.8
IN 3500	38.1	56.8	58.7	59.7	60.9	61.1	61.5	61.7	61.7	62.1	62.3	62.3	62.5	62.5	62.7	62.9
IN 3000	41.4	61.9	64.0	65.2	66.4	66.7	67.1	67.2	67.3	67.6	67.9	67.9	68.1	68.1	68.2	68.5
IN 2500	45.7	68.9	71.1	72.3	73.8	74.1	74.6	74.8	74.9	75.2	75.5	75.5	75.7	75.7	75.9	76.1
IN 2000	49.5	75.0	77.5	79.0	80.4	80.8	81.3	81.6	81.7	82.0	82.3	82.3	82.5	82.5	82.7	82.9
IN 1800	50.4	76.7	79.2	80.8	82.2	82.6	83.1	83.4	83.5	83.8	84.1	84.1	84.3	84.3	84.5	84.7
IN 1500	52.4	80.8	83.6	85.4	87.0	87.4	88.0	88.3	88.4	88.8	89.1	89.1	89.3	89.3	89.5	89.7
IN 1200	52.9	82.1	85.0	86.9	88.6	89.0	89.6	89.9	90.0	90.4	90.7	90.7	90.9	91.0	91.1	91.4
IN 1000	53.2	83.2	86.4	88.4	90.2	90.7	91.4	91.7	91.8	92.3	92.6	92.6	92.8	92.8	93.0	93.2
IN 900	53.2	83.5	86.7	89.0	90.8	91.3	92.0	92.3	92.4	92.9	93.2	93.2	93.4	93.5	93.6	93.9
IN 800	53.3	84.0	87.3	89.6	91.5	92.0	92.8	93.2	93.3	93.8	94.1	94.1	94.3	94.3	94.5	94.7
IN 700	53.4	84.3	87.8	90.2	92.3	92.8	93.7	94.0	94.1	94.7	95.0	95.0	95.2	95.2	95.4	95.6
IN 600	53.4	84.6	88.1	90.6	92.8	93.3	94.3	94.7	94.8	95.4	95.7	95.7	95.8	95.9	96.0	96.3
IN 500	53.4	84.7	88.3	90.9	93.3	93.9	94.9	95.4	95.5	96.1	96.4	96.4	96.6	96.7	96.8	97.1
IN 400	53.4	84.7	88.4	91.1	93.6	94.2	95.3	96.0	96.2	96.9	97.3	97.3	97.5	97.5	97.7	97.9
IN 300	53.4	84.7	88.5	91.2	93.7	94.4	95.6	96.3	96.6	97.5	97.8	97.8	98.1	98.2	98.4	98.6
IN 200	53.4	84.7	88.5	91.2	93.8	94.5	95.8	96.5	96.8	97.8	98.2	98.2	98.5	98.6	98.8	99.1
IN 100	53.4	84.7	88.5	91.2	93.8	94.5	95.8	96.6	96.9	98.0	98.4	98.4	98.7	98.8	99.1	99.6
IN 0	53.4	84.7	88.5	91.2	93.8	94.5	95.8	96.6	96.9	98.0	98.4	98.4	98.7	98.8	99.2	100.0

TOTAL NUMBER OF OBSERVATIONS 6506

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

726390

PHELPS-COLLINS/ALPENA MI

73-81

NOV

STATION

STATION NAME

YEARS

MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0000-0200
HOURS

CEILING FEET	VISIBILITY - STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1.25	≥ 1	≥ .75	≥ .5	≥ .25	≥ .16	≥ .1	≥ 0
NO CEILING	18.4	25.8	26.5	27.1	27.2	27.2	27.6	27.7	27.7	27.7	27.7	27.7	27.7	28.1	28.1	28.5
≥ 7000	18.4	26.5	27.1	27.7	27.9	27.9	28.3	28.4	28.4	28.4	28.4	28.4	28.4	28.8	28.8	29.2
≥ 18000	18.4	26.5	27.1	27.7	27.9	27.9	28.3	28.4	28.4	28.4	28.4	28.4	28.4	28.8	28.8	29.2
≥ 16000	18.4	26.5	27.1	27.7	27.9	27.9	28.3	28.4	28.4	28.4	28.4	28.4	28.4	28.8	28.8	29.2
≥ 14000	18.4	26.6	27.2	27.9	28.0	28.0	28.4	28.5	28.5	28.5	28.5	28.5	28.5	28.9	28.9	29.3
≥ 12000	18.8	27.1	28.0	28.6	28.8	28.8	29.2	29.3	29.3	29.3	29.3	29.3	29.3	29.7	29.7	30.1
≥ 10000	19.4	27.9	28.8	29.4	29.5	29.5	29.9	30.1	30.1	30.1	30.1	30.1	30.1	30.4	30.4	30.8
≥ 9000	19.4	27.9	28.8	29.4	29.5	29.5	29.9	30.1	30.1	30.1	30.1	30.1	30.1	30.4	30.4	30.8
≥ 8000	21.5	30.1	31.2	31.8	32.0	32.0	32.4	32.5	32.5	32.5	32.5	32.5	32.5	32.9	32.9	33.2
≥ 7000	22.6	31.7	32.9	33.5	33.6	33.6	34.0	34.1	34.1	34.1	34.1	34.1	34.1	34.5	34.5	34.9
≥ 6000	24.2	33.2	34.4	35.0	35.2	35.2	35.5	35.7	35.7	35.7	35.7	35.7	35.7	36.1	36.1	36.4
≥ 5000	25.1	35.3	36.6	37.2	37.3	37.3	37.7	37.9	37.9	37.9	37.9	37.9	37.9	38.2	38.2	38.6
≥ 4500	28.0	38.5	39.8	40.5	40.7	40.7	41.0	41.2	41.2	41.2	41.2	41.2	41.2	41.6	41.6	41.9
≥ 4000	29.0	40.3	41.6	42.3	42.5	42.5	42.8	43.1	43.1	43.1	43.1	43.1	43.1	43.5	43.5	43.9
≥ 3500	32.9	46.7	48.2	49.4	49.5	49.5	49.9	50.1	50.1	50.1	50.1	50.1	50.1	50.5	50.5	50.9
≥ 3000	37.5	53.8	56.3	57.4	57.8	57.8	58.3	58.6	58.6	58.6	58.6	58.6	58.6	59.0	59.0	59.3
≥ 2500	41.2	61.1	63.8	65.1	65.5	65.5	66.1	66.4	66.4	66.4	66.4	66.4	66.4	66.8	66.8	67.1
≥ 2000	45.0	68.8	71.1	73.0	73.5	73.5	74.2	74.4	74.4	74.4	74.4	74.4	74.4	74.8	74.8	75.2
≥ 1800	47.6	71.1	74.0	75.4	76.0	76.0	76.6	76.9	76.9	76.9	76.9	76.9	76.9	77.2	77.2	77.6
≥ 1500	49.7	76.0	79.3	80.8	81.7	81.7	82.4	82.7	82.7	82.7	82.7	82.7	82.7	83.1	83.1	83.5
≥ 1200	50.3	77.5	80.9	82.6	83.5	83.6	84.3	84.7	84.7	84.7	84.7	84.7	84.7	85.0	85.0	85.4
≥ 1000	50.5	78.4	82.0	84.0	84.9	85.0	85.7	86.1	86.1	86.1	86.1	86.1	86.1	86.4	86.4	86.8
≥ 900	50.5	78.9	82.5	84.5	85.4	85.7	86.3	86.7	86.7	86.7	86.7	86.7	86.7	87.2	87.2	87.6
≥ 800	50.5	79.1	83.4	85.4	86.3	86.7	87.3	87.7	87.7	87.7	87.7	87.7	87.7	88.0	88.0	88.4
≥ 700	50.9	80.2	84.0	86.1	87.0	87.5	88.1	88.5	88.7	88.9	88.9	88.9	88.9	89.3	89.3	89.6
≥ 600	50.8	80.4	84.5	86.8	87.7	88.2	88.9	89.5	89.8	89.9	89.9	89.9	89.9	90.3	90.3	90.7
≥ 500	50.8	80.8	85.0	87.3	88.2	88.7	89.6	90.4	90.7	91.0	91.2	91.2	91.2	91.6	91.6	91.9
≥ 400	50.8	80.8	85.2	87.7	88.6	89.1	90.3	91.3	91.8	92.6	93.1	93.1	93.1	93.6	93.6	94.0
≥ 300	50.8	80.8	85.4	88.0	88.9	89.4	90.7	91.8	92.3	93.2	93.7	93.7	93.7	94.2	94.2	94.6
≥ 200	50.8	80.8	85.4	88.1	89.1	89.6	91.0	92.5	93.0	94.1	94.6	94.6	94.6	95.3	95.3	95.9
≥ 100	50.8	80.8	85.4	88.1	89.1	89.6	91.0	92.6	93.2	94.4	95.4	95.4	95.4	96.3	96.3	97.6
≥ 0	50.8	80.8	85.4	88.1	89.1	89.6	91.0	92.6	93.2	94.4	95.4	95.4	95.4	96.4	96.7	98.3

TOTAL NUMBER OF OBSERVATIONS 782

USAF ETAC FORM 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
A1: WEATHER SERVICE/MAL

CEILING VERSUS VISIBILITY

17639
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

NOV
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

2300-0500
HOURS

CEILING FEET	VISIBILITY STATUTE MILES															
	≥10	≥8	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1.4	≥1	≥0.9	≥0.8	≥0.7	≥0.6	≥0.5	≥0
NO CEILING	18.5	27.8	29.0	29.7	30.0	30.0	30.1	30.1	30.1	30.3	30.4	30.6	30.9	30.9	30.9	31.3
≥20000	19.2	30.0	31.1	31.9	32.2	32.2	32.3	32.3	32.3	32.4	32.5	32.8	33.0	33.0	33.0	33.4
≥18000	19.2	30.0	31.1	31.9	32.2	32.2	32.3	32.3	32.3	32.4	32.5	32.8	33.0	33.0	33.0	33.4
≥16000	19.2	30.0	31.1	31.9	32.2	32.2	32.3	32.3	32.3	32.4	32.5	32.8	33.0	33.0	33.0	33.4
≥14000	19.2	30.0	31.1	31.9	32.2	32.2	32.3	32.3	32.3	32.4	32.5	32.8	33.0	33.0	33.0	33.4
≥12000	19.5	30.3	31.4	32.2	32.4	32.4	32.5	32.5	32.5	32.7	32.8	33.0	33.3	33.3	33.3	33.7
≥10000	20.1	31.0	32.2	32.9	33.2	33.2	33.3	33.3	33.3	33.4	33.5	33.8	34.1	34.1	34.1	34.4
≥9000	20.5	31.1	32.5	33.0	33.3	33.3	33.4	33.4	33.4	33.5	33.7	33.9	34.2	34.2	34.2	34.6
≥8000	21.5	32.5	33.7	34.4	34.7	34.7	34.8	34.8	34.8	34.9	35.1	35.3	35.6	35.6	35.6	35.9
≥7000	22.7	34.1	35.4	36.2	36.5	36.5	36.6	36.6	36.6	36.7	36.8	37.1	37.3	37.3	37.3	37.7
≥6000	23.8	35.8	37.3	38.1	38.4	38.4	38.5	38.5	38.5	38.6	38.7	39.0	39.2	39.2	39.2	39.6
≥5000	25.4	38.6	40.1	41.0	41.3	41.3	41.4	41.4	41.4	41.5	41.6	41.9	42.2	42.2	42.3	42.8
≥4500	27.5	41.4	43.0	43.9	44.2	44.2	44.4	44.4	44.4	44.6	44.7	44.9	45.2	45.2	45.3	45.8
≥4000	28.2	42.4	44.1	44.9	45.2	45.2	45.4	45.4	45.4	45.6	45.7	45.9	46.2	46.2	46.3	46.8
≥3500	32.4	47.8	49.6	50.5	50.8	50.8	51.0	51.0	51.0	51.1	51.3	51.5	51.8	51.8	51.9	52.4
≥3000	35.9	53.4	56.1	57.1	57.7	57.7	58.0	58.0	58.0	58.2	58.4	58.6	58.9	58.9	59.0	59.5
≥2500	39.9	60.5	63.2	64.3	65.2	65.3	65.6	65.6	65.6	65.8	66.1	66.3	66.7	66.7	67.0	67.5
≥2000	43.2	67.2	70.0	71.4	72.5	72.7	72.9	72.9	72.9	73.2	73.4	73.7	74.1	74.1	74.3	74.8
≥1800	43.4	69.4	72.3	73.7	75.1	75.2	75.4	75.4	75.4	75.7	75.9	76.2	76.6	76.6	76.8	77.3
≥1500	47.1	75.1	78.0	79.4	81.0	81.3	81.8	81.8	81.8	82.0	82.3	82.5	82.9	82.9	83.2	83.7
≥1200	47.8	77.3	80.4	81.8	83.4	83.7	84.2	84.6	84.6	84.8	85.1	85.3	85.7	85.7	85.9	86.5
≥1000	48.0	78.2	81.5	83.0	85.1	85.3	85.8	86.2	86.3	86.6	86.8	87.1	87.5	87.5	87.7	88.2
≥900	48.1	78.6	81.9	83.4	85.4	85.7	86.2	86.6	86.7	87.0	87.2	87.5	87.8	87.8	88.1	88.6
≥800	48.2	78.9	82.2	83.7	85.7	86.1	86.6	87.1	87.2	87.5	87.7	88.0	88.4	88.4	88.6	89.1
≥700	48.2	79.2	82.5	84.0	86.0	86.4	86.9	87.4	87.5	87.8	88.1	88.5	88.9	89.1	89.4	89.9
≥600	48.2	79.5	83.3	84.8	87.0	87.3	88.0	88.5	88.6	88.9	89.2	89.5	90.0	90.0	90.3	90.8
≥500	48.2	79.6	83.7	85.2	87.3	87.8	88.7	89.6	89.9	90.5	91.0	91.3	91.8	91.8	92.0	92.5
≥400	48.2	79.7	84.1	85.6	87.8	88.6	89.7	90.9	91.3	92.0	92.7	92.9	93.4	93.5	93.8	94.3
≥300	48.2	79.9	84.5	86.2	88.9	89.6	91.3	92.4	92.8	93.7	94.4	94.7	95.2	95.3	95.6	96.1
≥200	48.2	79.9	84.5	86.2	88.9	89.7	92.2	93.5	94.1	95.2	96.6	96.8	97.6	97.7	98.4	99.1
≥100	48.2	79.9	84.5	86.2	88.9	89.7	92.2	93.5	94.1	95.2	96.6	96.8	97.6	97.7	98.4	99.1
0	48.2	79.9	84.5	86.2	88.9	89.7	92.2	93.5	94.1	95.2	96.6	96.8	97.6	97.7	98.5	100.0

TOTAL NUMBER OF OBSERVATIONS 790

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAL

CEILING VERSUS VISIBILITY

10039
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

NOV
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

3600-0800
HOURS

CEILING FEET	VISIBILITY STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1.2	≥1	≥.75	≥.5	≥.25	≥.16	≥.1	≥0
NO CEILING	16.4	23.6	25.1	26.0	26.7	27.2	27.5	27.7	27.7	28.0	28.4	28.4	28.8	28.8	28.9	29.0
≥ 20000	17.0	24.7	26.2	27.1	28.0	28.6	28.9	29.1	29.1	29.5	29.9	29.9	30.3	30.4	30.5	30.6
≥ 18000	17.0	24.7	26.2	27.1	28.0	28.6	28.9	29.1	29.1	29.5	29.9	29.9	30.3	30.4	30.5	30.6
≥ 16000	17.0	24.7	26.2	27.1	28.0	28.6	28.9	29.1	29.1	29.5	29.9	29.9	30.3	30.4	30.5	30.6
≥ 14000	17.0	24.8	26.4	27.2	28.1	28.8	29.0	29.3	29.3	29.6	30.0	30.0	30.4	30.5	30.6	30.8
≥ 12000	17.0	25.0	26.5	27.4	28.2	28.9	29.1	29.4	29.4	29.8	30.1	30.1	30.5	30.6	30.8	30.9
≥ 10000	18.3	26.5	28.0	28.9	29.8	30.4	30.6	30.9	30.9	31.3	31.7	31.7	32.0	32.2	32.3	32.5
≥ 9000	18.3	26.5	28.0	28.9	29.8	30.4	30.6	30.9	30.9	31.3	31.7	31.7	32.0	32.2	32.3	32.5
≥ 8000	20.4	28.8	30.3	31.1	32.0	32.8	33.0	33.3	33.3	33.7	34.0	34.0	34.4	34.6	34.7	34.9
≥ 7000	21.4	30.4	31.9	32.8	33.8	34.6	34.8	35.1	35.1	35.4	35.8	35.8	36.2	36.3	36.4	36.7
≥ 6000	21.7	30.8	32.4	33.3	34.3	35.1	35.3	35.6	35.6	35.9	36.3	36.3	36.7	36.8	36.9	37.2
≥ 5000	23.0	33.7	35.6	36.4	37.7	38.5	38.7	39.0	39.0	39.3	39.7	39.7	40.1	40.2	40.4	40.6
≥ 4500	24.1	34.9	36.8	37.7	39.2	40.2	40.5	40.7	40.7	41.1	41.5	41.5	41.9	42.0	42.1	42.4
≥ 4000	25.2	36.8	38.7	39.6	41.1	42.1	42.4	42.6	42.6	43.0	43.4	43.4	43.8	43.9	44.0	44.3
≥ 3500	27.6	41.1	43.0	44.0	45.5	46.5	46.9	47.2	47.2	47.5	47.9	47.9	48.3	48.4	48.5	48.8
≥ 3000	31.1	46.7	48.9	49.9	51.7	52.7	53.1	53.3	53.3	53.8	54.4	54.4	54.9	55.0	55.1	55.4
≥ 2500	35.3	54.9	57.6	59.1	61.0	62.3	62.7	62.9	63.1	63.6	64.1	64.1	64.6	64.7	64.8	65.1
≥ 2000	39.3	62.4	65.2	67.1	69.5	70.9	71.2	71.5	71.6	72.1	72.6	72.6	73.1	73.3	73.4	73.6
≥ 1800	39.8	63.7	66.5	68.3	70.7	72.3	72.8	73.0	73.1	73.6	74.1	74.1	74.7	74.8	74.9	75.2
≥ 1500	41.9	68.0	71.2	73.4	76.2	77.7	78.2	78.9	79.1	79.6	80.3	80.3	81.0	81.1	81.2	81.5
≥ 1200	43.0	70.2	74.1	76.5	79.4	81.0	81.6	82.7	82.8	83.4	84.2	84.4	85.0	85.1	85.2	85.5
≥ 1000	43.1	71.4	75.4	77.9	81.0	82.6	83.2	84.4	84.5	85.1	86.0	86.1	86.8	86.9	87.0	87.3
≥ 900	43.3	71.6	75.8	78.3	81.3	83.0	83.6	84.7	84.9	85.5	86.4	86.5	87.1	87.3	87.4	87.6
≥ 800	43.4	72.3	76.4	78.9	82.3	84.0	84.7	85.9	86.0	86.6	87.5	87.6	88.3	88.4	88.5	88.8
≥ 700	43.4	73.0	77.3	79.9	83.4	85.0	85.8	87.1	87.3	87.9	88.8	88.9	89.5	89.7	89.8	90.0
≥ 600	43.5	73.1	77.6	80.6	84.1	85.9	86.8	88.1	88.3	89.0	89.9	90.2	90.8	90.9	91.0	91.3
≥ 500	43.5	73.1	77.6	80.6	84.1	85.9	86.8	88.1	88.3	89.0	89.9	90.2	90.8	90.9	91.0	91.3
≥ 400	43.5	73.1	77.7	81.1	84.9	86.9	88.3	89.9	90.0	91.6	92.6	92.9	93.6	93.7	93.9	94.2
≥ 300	43.5	73.1	77.7	81.2	85.0	87.1	89.4	91.7	91.8	93.6	95.0	95.3	96.0	96.1	96.3	96.6
≥ 200	43.6	73.3	77.8	81.6	85.4	87.5	90.3	92.7	92.8	94.6	96.2	96.6	97.4	97.5	97.7	98.0
≥ 100	43.6	73.3	77.8	81.6	85.4	87.5	90.3	92.8	92.9	95.0	96.7	97.1	98.1	98.5	98.9	99.2
≥ 0	43.6	73.3	77.8	81.6	85.4	87.5	90.3	92.8	92.9	95.0	96.7	97.1	98.1	98.5	98.9	99.2

TOTAL NUMBER OF OBSERVATIONS 793

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

STATION: PHELPS-COLLINS/ALPENA MI

73-81

NOV

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1980-1100

CEILING FEET	VISIBILITY STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1	≥ .75	≥ .5	≥ .25	≥ .1	≥ .05	≥ .01	≥ 0
NO CEILING	15.5	25.3	26.4	26.7	28.5	28.6	29.0	29.1	29.1	29.5	29.6	29.6	29.6	29.6	29.6	29.6
≥ 20000	16.8	27.1	28.5	28.7	30.5	30.8	31.2	31.3	31.4	31.9	32.1	32.1	32.1	32.1	32.1	32.1
≥ 18000	16.6	27.1	28.5	28.7	30.5	30.8	31.2	31.3	31.4	31.9	32.1	32.1	32.1	32.1	32.1	32.1
≥ 16000	16.6	27.1	28.5	28.7	30.5	30.8	31.2	31.3	31.4	31.9	32.1	32.1	32.1	32.1	32.1	32.1
≥ 14000	16.6	27.1	28.5	28.7	30.5	30.8	31.2	31.3	31.4	31.9	32.1	32.1	32.1	32.1	32.1	32.1
≥ 12000	17.2	28.0	29.4	29.6	31.4	31.7	32.1	32.2	32.3	32.8	33.0	33.0	33.0	33.0	33.0	33.0
≥ 10000	18.5	29.8	31.2	31.5	33.5	33.8	34.4	34.5	34.6	35.1	35.2	35.2	35.2	35.2	35.2	35.2
≥ 9000	18.5	29.8	31.2	31.5	33.5	33.8	34.4	34.5	34.6	35.1	35.2	35.2	35.2	35.2	35.2	35.2
≥ 8000	21.2	33.0	34.5	34.9	36.9	37.3	37.9	38.1	38.2	38.7	38.8	38.8	38.8	38.8	38.8	38.8
≥ 7000	22.0	33.7	35.2	35.6	37.7	38.1	38.7	38.8	39.0	39.5	39.6	39.6	39.6	39.6	39.6	39.6
≥ 6000	22.2	34.0	35.6	36.0	38.1	38.4	39.1	39.2	39.3	39.8	40.0	40.0	40.0	40.0	40.0	40.0
≥ 5000	22.7	34.4	36.5	37.0	39.5	39.8	40.5	40.6	40.7	41.4	41.5	41.5	41.5	41.5	41.5	41.5
≥ 4500	24.1	36.5	38.8	39.3	41.9	42.3	42.9	43.0	43.2	43.8	43.9	43.9	43.9	43.9	43.9	43.9
≥ 4000	24.4	37.3	39.6	40.1	42.7	43.0	43.7	43.8	43.9	44.6	44.7	44.7	44.7	44.7	44.7	44.7
≥ 3500	27.2	41.3	43.8	44.3	46.9	47.4	48.0	48.3	48.4	49.0	49.2	49.2	49.2	49.2	49.2	49.2
≥ 3000	30.5	46.0	49.2	49.7	52.5	53.0	53.8	54.2	54.3	54.9	55.0	55.0	55.0	55.0	55.0	55.0
≥ 2500	35.5	54.7	57.6	58.2	61.4	62.2	63.3	63.9	64.0	64.6	64.8	64.8	64.8	64.8	64.8	64.8
≥ 2000	40.4	63.5	66.8	67.4	70.8	71.6	72.8	73.3	73.4	74.2	74.3	74.3	74.3	74.3	74.3	74.3
≥ 1800	41.4	64.9	68.2	68.8	72.2	73.2	74.3	74.8	75.0	75.9	76.0	76.0	76.0	76.0	76.1	76.1
≥ 1500	42.3	68.5	72.0	72.9	77.0	78.3	79.6	80.3	80.5	81.4	81.9	81.9	81.9	81.9	82.0	82.0
≥ 1200	42.4	70.4	74.1	75.1	79.3	80.6	81.9	82.6	82.8	83.7	84.2	84.2	84.2	84.3	84.4	84.4
≥ 1000	43.4	71.4	75.4	76.4	81.4	82.8	84.3	85.2	85.4	86.6	87.1	87.1	87.1	87.2	87.4	87.4
≥ 900	43.4	72.0	76.0	77.1	81.6	83.0	84.5	85.4	85.7	86.8	87.5	87.6	87.6	87.9	88.0	88.0
≥ 800	43.6	72.4	76.6	77.8	82.2	83.7	85.3	86.2	86.5	87.6	88.4	88.5	88.8	88.8	88.9	88.9
≥ 700	43.6	72.9	77.1	78.4	83.0	84.4	86.1	87.0	87.2	88.5	89.3	89.4	89.7	89.7	89.8	89.8
≥ 600	43.6	73.2	77.4	78.8	83.7	85.2	86.8	87.7	88.0	89.3	90.0	90.3	90.5	90.5	90.7	90.7
≥ 500	43.6	73.3	77.7	79.1	84.3	85.8	87.7	88.8	89.0	90.4	91.3	91.8	92.3	92.5	92.6	92.6
≥ 400	43.6	73.6	78.3	79.7	85.6	87.6	90.3	91.7	92.1	94.0	95.8	96.7	97.7	98.0	98.3	98.3
≥ 300	43.6	73.6	78.3	79.7	85.6	87.6	90.3	91.7	92.1	94.0	95.8	96.7	97.8	98.3	99.1	99.1
≥ 200	43.6	73.6	78.3	79.7	85.6	87.6	90.3	91.7	92.1	94.0	95.8	96.7	97.8	98.3	99.1	99.1
≥ 100	43.6	73.6	78.3	79.7	85.6	87.6	90.3	91.7	92.1	94.0	95.8	96.7	97.8	98.3	99.1	99.1
≥ 0	43.6	73.6	78.3	79.7	85.6	87.6	90.3	91.7	92.1	94.0	95.8	96.7	97.8	98.3	99.1	99.1

TOTAL NUMBER OF OBSERVATIONS 783

USAF ETAC FORM 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

73-81
STATION NAME
PHELPS-COLLINS/ALPENA MI

73-81

YEAR

NOV

PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

1200-1400
HOURS LST

CEILING FEET	VISIBILITY STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2	≥ 2	≥ 1	≥ 1	≥ 1	≥ 1	≥ 1	≥ 1	≥ 1	≥ 1	≥ 1
NO CEILING	14.9	21.2	28.4	26.9	29.2	29.2	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3
≥ 20000	21.5	29.7	31.5	31.5	31.7	31.7	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9
≥ 18000	21.5	29.7	31.5	31.5	31.7	31.7	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9
≥ 16000	21.5	29.7	31.5	31.5	31.7	31.7	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9
≥ 14000	21.7	29.9	31.2	31.7	32.0	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
≥ 12000	22.1	30.6	31.9	32.4	32.6	32.6	32.8	32.8	32.8	32.8	32.8	32.8	32.8	32.8	32.8	32.8
≥ 10000	23.7	32.3	33.5	34.2	34.4	34.4	34.6	34.6	34.6	34.6	34.6	34.6	34.6	34.6	34.6	34.6
≥ 9000	23.7	32.3	33.5	34.2	34.4	34.4	34.6	34.6	34.6	34.6	34.6	34.6	34.6	34.6	34.6	34.6
≥ 8000	26.1	35.2	36.5	37.1	37.4	37.4	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5
≥ 7000	27.6	37.0	38.6	39.2	39.5	39.5	39.6	39.6	39.6	39.6	39.6	39.6	39.6	39.6	39.6	39.6
≥ 6000	27.8	37.3	38.9	39.6	39.8	39.8	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
≥ 5000	28.4	38.4	40.1	40.7	41.0	41.0	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1
≥ 4500	31.5	41.5	43.4	44.1	44.3	44.3	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5	44.5
≥ 4000	31.5	42.2	44.1	44.7	45.0	45.0	45.1	45.1	45.1	45.1	45.1	45.1	45.1	45.1	45.1	45.1
≥ 3500	33.2	44.5	46.5	47.2	47.4	47.4	47.6	47.6	47.6	47.6	47.6	47.6	47.6	47.6	47.6	47.6
≥ 3000	36.5	49.5	51.5	52.3	52.8	52.8	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0
≥ 2500	42.7	59.0	61.4	62.5	63.4	63.4	63.5	63.5	63.5	63.5	63.5	63.5	63.5	63.5	63.5	63.5
≥ 2000	46.7	66.8	69.4	70.6	71.6	71.6	71.9	71.9	71.9	71.9	71.9	71.9	71.9	71.9	71.9	71.9
≥ 1800	48.2	69.8	72.4	73.5	74.9	74.9	75.2	75.2	75.2	75.2	75.2	75.2	75.2	75.2	75.2	75.2
≥ 1500	50.0	74.4	77.4	79.3	81.2	81.4	81.7	81.7	82.0	82.1	82.1	82.1	82.1	82.1	82.1	82.1
≥ 1200	50.6	75.7	78.7	80.6	82.9	83.0	83.8	83.8	84.1	84.2	84.2	84.2	84.2	84.2	84.2	84.2
≥ 1000	51.3	77.2	80.2	82.1	84.4	84.7	85.7	85.9	86.4	86.8	86.8	86.8	86.8	86.8	86.8	86.8
≥ 900	51.3	77.5	81.2	83.3	85.7	86.0	87.1	87.4	87.9	88.4	88.4	88.4	88.4	88.4	88.4	88.4
≥ 800	51.7	78.1	82.5	84.3	87.0	87.4	88.8	89.6	90.1	90.7	90.9	90.9	90.9	90.9	90.9	90.9
≥ 700	51.9	78.7	82.5	85.0	88.0	88.4	89.8	90.9	91.4	92.0	92.2	92.3	92.3	92.3	92.3	92.3
≥ 600	51.9	78.9	83.0	85.6	88.8	89.2	90.6	91.8	92.4	93.1	93.2	93.4	93.6	93.6	93.6	93.6
≥ 500	51.9	79.2	83.3	86.2	89.7	90.2	91.6	93.2	93.8	94.6	94.7	95.4	95.5	95.5	95.5	95.5
≥ 400	51.9	79.4	84.1	87.0	90.9	91.5	92.9	94.6	95.2	96.1	96.5	97.2	97.3	97.3	97.3	97.3
≥ 300	51.9	79.4	84.2	87.4	91.5	92.2	93.7	95.4	96.1	97.2	97.7	98.3	98.5	98.7	98.8	99.0
≥ 200	51.9	79.4	84.2	87.4	91.5	92.2	93.7	95.4	96.1	97.6	98.1	98.8	99.1	99.5	99.9	100.0
≥ 100	51.9	79.4	84.2	87.4	91.5	92.2	93.7	95.4	96.1	97.6	98.1	98.8	99.1	99.5	99.9	100.0
≥ 0	51.9	79.4	84.2	87.4	91.5	92.2	93.7	95.4	96.1	97.6	98.1	98.8	99.1	99.5	99.9	100.0

TOTAL NUMBER OF OBSERVATIONS

778

USAF ETAC

FORM
JUL 64

0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

OFFICIAL CLIMATOLOGY BRANCH
OFFICIAL
AIR WEATHER SERVICE/MAL

CEILING VERSUS VISIBILITY

1. 639
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

NOV
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1500-1700
HOURS

CEILING FEET	VISIBILITY STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1	≥ 0.5	≥ 0.25	≥ 0.15	≥ 0.1	≥ 0.05	≥ 0.025	≥ 0.01
NO CEILING	19.9	28.0	28.1	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5
≥ 20000	22.4	31.3	31.4	31.8	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9
≥ 18000	22.4	31.3	31.4	31.8	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9
≥ 16000	22.4	31.3	31.4	31.8	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9
≥ 14000	22.4	31.3	31.4	31.8	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9
≥ 12000	22.4	31.3	31.4	31.8	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9
≥ 10000	23.4	33.0	33.2	33.5	33.7	33.7	33.7	33.7	33.7	33.7	33.7	33.7	33.7	33.7	33.7	33.7
≥ 9000	24.0	33.2	33.5	33.7	33.8	33.8	33.8	33.8	33.8	33.8	33.8	33.8	33.8	33.8	33.8	33.8
≥ 8000	26.9	37.1	37.2	37.7	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0
≥ 7000	28.1	38.6	38.8	39.3	39.5	39.5	39.5	39.5	39.5	39.5	39.5	39.5	39.5	39.5	39.5	39.5
≥ 6000	28.1	38.9	39.7	39.5	39.8	39.8	39.8	39.8	39.8	39.8	39.8	39.8	39.8	39.8	39.8	39.8
≥ 5000	29.0	40.0	40.2	40.8	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2
≥ 4500	31.2	42.1	42.6	43.6	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0
≥ 4000	31.5	42.7	43.2	44.2	44.6	44.6	44.6	44.6	44.6	44.6	44.6	44.6	44.6	44.6	44.6	44.6
≥ 3500	32.5	45.7	46.3	47.6	48.0	48.0	48.2	48.2	48.2	48.2	48.2	48.2	48.2	48.2	48.2	48.2
≥ 3000	37.2	52.6	53.2	54.8	55.3	55.3	55.4	55.4	55.4	55.4	55.4	55.4	55.4	55.4	55.4	55.4
≥ 2500	44.7	61.6	62.8	64.5	65.3	65.4	65.6	65.6	65.6	65.6	65.6	65.6	65.6	65.6	65.6	65.6
≥ 2000	49.4	70.6	72.0	74.1	75.0	75.1	75.5	75.5	75.5	75.5	75.5	75.5	75.5	75.5	75.5	75.5
≥ 1800	49.9	72.6	74.0	76.4	77.3	77.4	77.8	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9
≥ 1500	51.5	76.4	78.3	81.1	82.3	82.5	82.8	83.4	83.5	83.7	83.7	83.7	83.7	83.7	83.7	83.7
≥ 1200	51.7	77.5	79.7	82.8	84.1	84.5	84.9	85.5	85.8	86.0	86.1	86.1	86.1	86.1	86.1	86.1
≥ 1000	52.1	78.4	80.8	84.2	86.4	86.8	87.4	88.1	88.4	88.9	89.1	89.2	89.2	89.2	89.2	89.2
≥ 900	52.1	78.5	81.1	84.8	86.9	87.3	87.9	88.6	88.9	89.6	89.7	89.8	89.8	89.8	89.8	89.8
≥ 800	52.2	78.8	81.3	85.0	87.5	88.1	88.8	89.6	90.1	90.9	91.0	91.1	91.1	91.1	91.1	91.1
≥ 700	52.2	79.2	82.1	85.9	88.6	89.1	89.8	90.7	91.2	92.0	92.4	92.5	92.5	92.5	92.5	92.5
≥ 600	52.2	79.3	82.2	86.3	89.1	89.7	90.5	91.4	91.9	92.8	93.3	93.8	94.0	94.0	94.0	94.0
≥ 500	52.2	79.4	82.3	86.4	89.2	89.8	90.6	91.7	92.4	93.4	94.0	94.5	94.8	94.8	94.8	94.8
≥ 400	52.2	79.5	82.6	86.7	89.5	90.2	91.1	92.8	93.4	94.7	95.3	95.9	96.3	96.3	96.3	96.3
≥ 300	52.2	79.5	82.6	86.7	89.6	90.5	91.6	93.3	93.9	95.4	96.2	97.1	97.7	97.7	97.7	97.8
≥ 200	52.2	79.5	82.6	86.8	89.7	90.6	91.7	93.5	94.2	96.1	97.0	97.8	98.5	98.5	98.5	99.1
≥ 100	52.2	79.5	82.6	86.8	89.7	90.6	91.7	93.6	94.3	96.2	97.1	98.1	98.7	98.7	99.0	99.6
≥ 0	52.2	79.5	82.6	86.8	89.7	90.6	91.9	93.6	94.3	96.2	97.1	98.1	98.7	98.7	99.0	100.0

TOTAL NUMBER OF OBSERVATIONS 787

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAL

CEILING VERSUS VISIBILITY

1 639
STATION

PHILIPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

NOV
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1800-2000
HOURS LST

CEILING FEET	VISIBILITY STATUTE MILES															
	≥ 10	≥ 8	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1.4	≥ 1	≥ .5	≥ .4	≥ .3	≥ .25	≥ .2	≥ 0
NO CEILING	20.5	23.4	29.3	29.7	29.7	29.7	29.7	29.7	29.7	29.8	29.9	29.9	30.1	30.1	30.1	30.1
≥ 20000	21.5	30.2	31.2	31.6	31.6	31.6	31.6	31.6	31.6	31.7	31.8	31.8	32.0	32.0	32.0	32.0
≥ 18000	21.7	30.3	31.3	31.7	31.7	31.7	31.7	31.7	31.7	31.8	32.0	32.0	32.1	32.1	32.1	32.1
≥ 16000	21.7	30.3	31.3	31.7	31.7	31.7	31.7	31.7	31.7	31.8	32.0	32.0	32.1	32.1	32.1	32.1
≥ 14000	21.7	30.6	31.6	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.2	32.2	32.4	32.4	32.4	32.4
≥ 12000	22.0	31.0	32.0	32.4	32.4	32.4	32.4	32.4	32.4	32.5	32.6	32.6	32.7	32.7	32.7	32.7
≥ 10000	22.8	31.8	32.9	33.2	33.2	33.2	33.2	33.2	33.2	33.4	33.5	33.5	33.6	33.6	33.6	33.6
≥ 9000	23.1	32.2	33.2	33.6	33.6	33.6	33.6	33.6	33.6	33.8	33.9	33.9	34.0	34.0	34.0	34.0
≥ 8000	24.2	34.4	35.4	35.8	35.8	35.8	35.8	35.8	35.8	35.9	36.1	36.1	36.2	36.2	36.2	36.2
≥ 7000	25.0	35.9	36.9	37.3	37.3	37.3	37.3	37.3	37.3	37.5	37.6	37.6	37.7	37.7	37.7	37.7
≥ 6000	25.7	36.9	38.0	38.3	38.3	38.3	38.3	38.3	38.3	38.5	38.6	38.6	38.7	38.7	38.7	38.7
≥ 5000	27.1	39.1	40.1	40.6	40.6	40.6	40.6	40.6	40.6	40.8	40.9	40.9	41.0	41.0	41.0	41.0
≥ 4500	28.2	40.8	41.8	42.8	42.8	42.8	42.9	42.9	42.9	43.1	43.2	43.2	43.3	43.3	43.3	43.3
≥ 4000	28.9	42.3	43.3	44.3	44.3	44.3	44.5	44.5	44.5	44.6	44.7	44.7	44.8	44.8	44.8	44.8
≥ 3500	32.3	46.8	47.9	48.9	48.9	48.9	49.0	49.0	49.0	49.2	49.3	49.3	49.4	49.4	49.4	49.4
≥ 3000	38.1	55.2	56.6	58.1	58.2	58.2	58.3	58.5	58.5	58.6	58.7	58.7	58.9	58.9	58.9	58.9
≥ 2500	42.9	61.8	63.4	65.0	65.7	65.9	66.0	66.1	66.1	66.2	66.4	66.4	66.5	66.5	66.5	66.5
≥ 2000	46.6	67.9	69.7	71.7	72.5	72.7	73.0	73.1	73.1	73.2	73.4	73.4	73.5	73.5	73.5	73.5
≥ 1800	49.2	71.2	73.1	75.2	76.1	76.3	76.7	76.9	76.9	77.1	77.2	77.2	77.3	77.3	77.3	77.3
≥ 1500	51.0	75.3	78.1	80.5	81.4	81.7	82.3	82.9	82.9	83.2	83.3	83.3	83.4	83.4	83.4	83.4
≥ 1200	51.3	76.4	79.0	81.8	82.7	83.1	83.7	84.3	84.3	84.6	84.7	84.7	84.8	84.8	84.8	84.8
≥ 1000	51.5	77.2	80.3	83.1	83.9	84.5	85.2	85.9	85.9	86.4	86.5	86.5	86.6	86.6	86.6	86.6
≥ 900	51.5	77.3	80.4	83.2	84.1	84.6	85.5	86.1	86.2	86.8	86.9	86.9	87.0	87.0	87.0	87.0
≥ 800	51.6	77.6	80.6	83.7	84.8	85.5	86.5	87.4	87.8	88.4	88.5	88.5	88.7	88.7	88.7	88.7
≥ 700	52.0	78.0	81.3	84.3	85.7	86.4	87.5	88.5	88.9	89.8	89.9	89.9	90.1	90.1	90.1	90.1
≥ 600	52.0	78.0	81.4	84.6	86.2	87.0	88.2	89.3	89.8	90.7	91.0	91.0	91.1	91.1	91.1	91.1
≥ 500	52.0	78.0	81.7	85.0	86.6	87.4	88.9	90.2	90.7	92.0	92.4	92.4	92.6	92.6	92.6	92.6
≥ 400	52.0	78.0	81.8	86.0	88.0	88.8	90.4	91.8	92.5	94.3	95.0	95.2	95.4	95.4	95.4	95.4
≥ 300	52.0	78.0	81.9	86.1	88.4	89.4	91.2	92.9	93.9	96.2	96.9	97.1	97.3	97.5	97.5	97.5
≥ 200	52.0	78.0	81.9	86.1	88.4	89.6	91.3	93.6	94.8	97.1	97.8	98.0	98.3	98.3	98.3	98.7
≥ 100	52.0	78.0	81.9	86.1	88.4	89.6	91.3	93.8	94.9	97.3	98.1	98.3	99.0	99.0	99.1	99.6
≥ 0	52.0	78.0	81.9	86.1	88.4	89.6	91.3	93.8	94.9	97.3	98.1	98.3	99.0	99.0	99.2	100.0

TOTAL NUMBER OF OBSERVATIONS

785

USAF ETAC

FORM
JUL 64

0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

1259
STATION

PHILIPS-COLLINS/ALPENA MI
STATION NAME

13-81
YEARS

NOV
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

2100-2300
HOURS LT

CEILING FEET	VISIBILITY STATUTE MILES															
	≥10	≥8	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1.4	≥1	≥.8	≥.6	≥.5	≥.4	≥.3	≥.2
NO CEILING	18.7	27.5	28.1	28.3	28.9	28.9	28.9	28.9	28.9	29.2	29.2	29.3	29.4	29.4	29.4	29.6
≥ 20000	19.0	28.7	29.2	29.4	30.1	30.1	30.1	30.1	30.1	30.3	30.3	30.4	30.6	30.6	30.6	30.7
≥ 18000	19.0	28.7	29.2	29.4	30.1	30.1	30.1	30.1	30.1	30.3	30.3	30.4	30.6	30.6	30.6	30.7
≥ 16000	19.0	28.7	29.2	29.4	30.1	30.1	30.1	30.1	30.1	30.3	30.3	30.4	30.6	30.6	30.6	30.7
≥ 14000	19.0	29.1	29.6	29.8	30.4	30.4	30.4	30.4	30.4	30.7	30.7	30.8	30.9	30.9	30.9	31.1
≥ 12000	19.2	29.4	29.9	30.2	30.8	30.8	30.8	30.8	30.8	31.1	31.1	31.2	31.3	31.3	31.3	31.4
≥ 10000	20.0	30.4	30.9	31.2	31.8	31.8	31.8	31.8	31.8	32.1	32.1	32.2	32.3	32.3	32.3	32.5
≥ 9000	20.0	30.6	31.1	31.3	31.9	31.9	31.9	31.9	31.9	32.2	32.2	32.3	32.5	32.5	32.5	32.6
≥ 8000	21.5	32.6	33.1	33.3	34.0	34.0	34.0	34.0	34.0	34.2	34.2	34.3	34.5	34.5	34.5	34.6
≥ 7000	22.4	34.2	34.7	35.0	35.6	35.6	35.6	35.6	35.6	35.8	35.8	36.0	36.1	36.1	36.1	36.2
≥ 6000	23.4	35.2	35.7	36.2	36.9	36.9	36.9	36.9	36.9	37.1	37.1	37.2	37.4	37.4	37.4	37.5
≥ 5000	25.8	37.9	38.4	38.9	39.5	39.5	39.5	39.5	39.5	39.7	39.7	39.9	40.0	40.0	40.0	40.1
≥ 4500	27.9	40.8	41.6	42.3	42.9	42.9	42.9	42.9	42.9	43.3	43.3	43.4	43.5	43.5	43.5	43.6
≥ 4000	28.8	42.5	43.5	44.2	44.8	44.8	44.8	44.8	44.8	45.2	45.2	45.3	45.4	45.4	45.4	45.5
≥ 3500	31.4	47.0	48.4	49.2	49.8	49.8	49.8	49.8	49.8	50.2	50.2	50.3	50.4	50.4	50.4	50.6
≥ 3000	35.4	55.3	56.7	57.7	58.4	58.4	58.4	58.5	58.5	58.9	58.9	59.0	59.1	59.1	59.1	59.2
≥ 2500	41.3	63.6	65.0	66.0	66.8	66.8	66.8	66.9	66.9	67.3	67.3	67.4	67.5	67.5	67.5	67.7
≥ 2000	46.5	71.4	73.2	74.5	75.6	75.6	75.6	75.8	75.8	76.2	76.2	76.4	76.5	76.5	76.5	76.6
≥ 1800	48.2	74.1	76.0	77.4	78.5	78.5	78.5	78.7	78.7	79.1	79.4	79.5	79.6	79.6	79.6	79.7
≥ 1500	49.7	77.6	79.7	81.1	82.3	82.3	82.4	82.9	82.9	83.3	83.5	83.6	83.8	83.8	83.8	83.9
≥ 1200	50.4	79.2	81.5	82.9	84.2	84.2	84.3	85.0	85.2	85.5	85.8	85.9	86.0	86.0	86.0	86.2
≥ 1000	50.4	80.5	82.5	84.2	85.5	85.5	85.8	86.8	86.9	87.3	87.5	87.7	87.8	87.8	87.8	87.9
≥ 900	50.4	80.5	82.8	84.4	85.9	85.9	86.2	87.2	87.3	87.7	87.9	88.1	88.2	88.2	88.2	88.3
≥ 800	50.4	80.5	83.1	84.8	86.3	86.3	86.5	87.7	87.8	88.4	88.7	88.8	88.9	88.9	88.9	89.1
≥ 700	50.4	80.5	83.8	85.5	87.3	87.3	87.7	88.9	89.1	89.8	90.1	90.2	90.3	90.3	90.3	90.4
≥ 600	50.4	80.6	83.9	85.9	87.9	88.1	88.4	89.8	89.9	90.7	90.9	91.1	91.2	91.2	91.2	91.3
≥ 500	50.4	80.8	84.0	86.3	88.6	88.7	89.1	90.6	90.7	91.9	92.3	92.5	92.6	92.6	92.6	92.7
≥ 400	50.4	81.0	84.4	87.3	89.8	89.9	90.6	92.1	92.5	94.0	94.5	94.6	95.1	95.1	95.1	95.2
≥ 300	50.4	81.0	84.4	87.8	90.4	90.6	91.3	93.2	93.6	95.2	95.8	96.0	96.5	96.5	96.5	96.6
≥ 200	50.4	81.0	84.5	87.9	90.6	90.7	91.6	93.7	94.1	96.0	96.7	96.9	97.4	97.4	97.4	97.5
≥ 100	50.4	81.0	84.5	87.9	90.6	90.7	91.7	93.8	94.2	96.4	97.4	97.5	98.1	98.4	98.7	99.0
≥ 0	50.4	81.0	84.5	87.9	90.6	90.7	91.7	93.8	94.2	96.4	97.4	97.5	98.2	98.9	99.2	100.0

TOTAL NUMBER OF OBSERVATIONS 795

USAF ETAC FORM 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

122391
STATION

PHILIPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

NOV
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

ALL
HOURS (24)

CEILING FEET	VISIBILITY STATUTE MILES															
	≥ 10	≥ 8	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1	≥ .5	≥ .4	≥ .3	≥ .25	≥ .2	≥ .15	≥ 0
NO CEILING	18.5	26.7	27.6	28.1	28.6	28.7	28.8	28.9	28.9	29.0	29.1	29.2	29.3	29.3	29.4	29.6
≥ 20000	19.5	28.5	29.5	30.0	30.5	30.6	30.7	30.8	30.8	31.0	31.1	31.1	31.3	31.3	31.4	31.6
≥ 18000	19.5	28.5	29.5	30.0	30.5	30.6	30.8	30.8	30.8	31.0	31.1	31.2	31.3	31.3	31.4	31.6
≥ 16000	19.5	28.5	29.5	30.0	30.5	30.6	30.8	30.8	30.8	31.0	31.1	31.2	31.3	31.3	31.4	31.6
≥ 14000	19.5	28.5	29.5	30.0	30.5	30.6	30.8	30.9	31.0	31.0	31.2	31.3	31.3	31.5	31.5	31.7
≥ 12000	19.8	29.1	30.1	30.6	31.1	31.2	31.4	31.5	31.5	31.7	31.7	31.8	32.0	32.0	32.0	32.2
≥ 10000	20.8	30.3	31.3	31.9	32.4	32.5	32.7	32.8	32.8	32.9	33.0	33.1	33.2	33.3	33.4	33.5
≥ 9000	20.9	30.4	31.4	32.0	32.5	32.6	32.8	32.8	32.9	33.0	33.1	33.2	33.3	33.4	33.4	33.6
≥ 8000	22.8	32.9	34.0	34.5	35.1	35.2	35.4	35.5	35.5	35.7	35.8	35.8	36.0	36.0	36.1	36.2
≥ 7000	24.0	34.5	35.5	36.1	36.7	36.8	37.0	37.1	37.1	37.3	37.4	37.4	37.6	37.6	37.6	37.8
≥ 6000	24.0	35.3	36.4	37.0	37.6	37.7	37.9	38.0	38.0	38.2	38.3	38.3	38.5	38.5	38.6	38.7
≥ 5000	25.4	37.2	38.4	39.1	39.8	39.9	40.1	40.2	40.2	40.4	40.5	40.5	40.7	40.7	40.8	41.0
≥ 4500	27.6	39.6	41.0	41.8	42.5	42.7	42.9	43.0	43.0	43.2	43.3	43.3	43.5	43.5	43.6	43.8
≥ 4000	28.3	40.8	42.3	43.0	43.8	43.9	44.2	44.2	44.3	44.5	44.6	44.6	44.8	44.8	44.9	45.1
≥ 3500	31.1	45.1	46.7	47.6	48.4	48.5	48.8	48.9	48.9	49.1	49.2	49.3	49.4	49.4	49.5	49.7
≥ 3000	35.3	51.6	53.6	54.6	55.6	55.7	56.0	56.2	56.2	56.4	56.5	56.6	56.8	56.8	56.9	57.1
≥ 2500	40.4	59.7	61.9	63.1	64.3	64.6	64.9	65.1	65.1	65.4	65.5	65.5	65.7	65.8	65.9	66.1
≥ 2000	44.7	67.3	69.8	71.2	72.6	73.0	73.4	73.6	73.6	73.8	74.0	74.2	74.2	74.3	74.5	
≥ 1800	46.0	69.6	72.0	73.6	75.1	75.5	75.9	76.1	76.1	76.4	76.6	76.6	76.8	76.8	76.9	77.1
≥ 1500	47.9	73.9	76.8	78.6	80.4	80.8	81.4	81.8	81.9	82.3	82.5	82.6	82.7	82.8	82.9	83.1
≥ 1200	48.5	75.5	78.5	80.5	82.4	82.9	83.6	84.2	84.3	84.6	84.9	84.9	85.2	85.2	85.3	85.5
≥ 1000	48.8	76.6	79.8	81.9	84.1	84.6	85.4	86.0	86.2	86.7	87.0	87.1	87.3	87.3	87.4	87.6
≥ 900	48.8	76.9	80.2	82.4	84.6	85.1	85.9	86.6	86.8	87.3	87.6	87.7	87.9	88.0	88.1	88.3
≥ 800	48.9	77.3	80.7	82.9	85.3	86.0	86.8	87.6	87.9	88.5	88.8	88.9	89.2	89.2	89.3	89.5
≥ 700	49.1	77.7	81.3	83.7	86.2	86.8	87.7	88.7	89.0	89.6	90.0	90.1	90.3	90.4	90.5	90.7
≥ 600	49.1	77.9	81.7	84.2	86.8	87.6	88.5	89.5	89.8	90.5	90.9	91.1	91.4	91.5	91.6	91.8
≥ 500	49.1	78.0	81.9	84.5	87.3	88.1	89.2	90.4	90.8	91.8	92.3	92.6	92.9	93.0	93.1	93.3
≥ 400	49.1	78.2	82.3	85.1	88.1	89.0	90.3	91.7	92.2	93.5	94.1	94.5	94.9	95.0	95.1	95.3
≥ 300	49.1	78.2	82.3	85.4	88.5	89.5	91.1	92.8	93.3	94.7	95.6	95.9	96.4	96.5	96.7	96.9
≥ 200	49.1	78.2	82.4	85.5	88.7	89.7	91.5	93.3	93.9	95.5	96.6	97.0	97.6	97.7	97.9	98.3
≥ 100	49.1	78.2	82.4	85.5	88.7	89.7	91.5	93.4	94.0	95.7	96.9	97.3	98.1	98.3	98.8	99.3
≥ 0	49.1	78.2	82.4	85.5	88.7	89.7	91.5	93.4	94.0	95.7	96.9	97.4	98.1	98.4	99.0	100.0

TOTAL NUMBER OF OBSERVATIONS

6293

USAF ETAC FORM 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

LOCAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

100-39
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

DEC
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0000-0200
HOURS

CEILING FEET	VISIBILITY (STATUTE MILES)															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1.4	≥1	≥.4	≥.4	≥.4	≥.4	≥.4	≥.4
NO CEILING	21.7	28.6	28.8	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9
≥ 20000	22.3	29.7	29.9	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
IV 18000	22.3	29.7	29.9	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
IV 16000	22.3	29.7	29.9	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
IV 14000	22.3	29.7	29.9	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
IV 12000	22.3	29.7	29.9	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
IV 10000	23.7	31.4	31.4	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5
IV 9000	23.7	31.4	31.7	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8
IV 8000	24.1	32.0	32.3	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.4
IV 7000	24.6	32.8	33.0	33.2	33.2	33.2	33.2	33.2	33.2	33.2	33.2	33.2	33.2	33.2	33.2	33.2
IV 6000	25.4	33.7	33.9	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0
IV 5000	26.4	35.2	35.2	35.8	35.8	35.8	35.8	35.8	35.8	35.8	35.8	35.8	35.8	35.8	35.8	35.8
IV 4500	28.6	37.9	38.4	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7
IV 4000	28.7	38.2	38.7	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0
IV 3500	29.9	39.9	40.5	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9
IV 3000	33.2	44.3	45.4	46.1	46.4	46.4	46.4	46.4	46.4	46.4	46.4	46.4	46.4	46.4	46.4	46.4
IV 2500	37.8	51.2	52.8	53.9	54.6	54.6	54.7	54.9	54.9	54.9	54.9	54.9	54.9	54.9	54.9	54.9
IV 2000	40.9	60.5	63.0	65.1	66.1	66.3	66.8	67.2	67.2	67.5	67.5	67.5	67.5	67.5	67.5	67.5
IV 1800	42.9	63.8	66.6	69.0	70.1	70.6	71.2	71.6	71.6	71.8	71.8	71.8	71.8	71.8	71.8	71.8
IV 1500	44.9	70.3	73.8	76.2	77.6	78.2	79.2	80.2	80.3	80.5	80.5	80.5	80.5	80.5	80.5	80.5
IV 1200	46.3	73.3	77.2	79.7	81.3	81.9	83.0	84.2	84.3	84.5	84.5	84.5	84.5	84.5	84.5	84.5
IV 1000	46.6	74.8	79.4	81.9	83.7	84.3	86.2	87.4	87.7	88.3	88.3	88.3	88.3	88.3	88.3	88.3
IV 900	46.9	75.3	80.0	82.5	84.3	84.9	86.9	88.2	88.4	89.0	89.0	89.0	89.0	89.0	89.0	89.0
IV 800	46.8	75.7	80.5	83.0	84.9	85.5	87.5	88.8	89.2	90.0	90.0	90.0	90.0	90.0	90.0	90.0
IV 700	47.0	76.3	81.4	84.2	86.0	86.7	88.7	90.0	90.4	91.3	91.3	91.3	91.3	91.3	91.3	91.3
IV 600	47.0	76.4	81.7	84.4	86.3	87.2	89.3	90.6	91.0	92.0	92.0	92.0	92.1	92.1	92.1	92.1
IV 500	47.0	76.8	82.3	85.2	87.4	88.3	90.8	92.3	92.8	93.8	93.8	93.8	93.9	93.9	93.9	93.9
IV 400	47.0	76.9	82.4	85.5	87.9	89.0	91.6	93.1	93.9	95.0	95.3	95.4	95.4	95.4	95.4	95.4
IV 300	47.0	76.9	82.5	85.9	89.0	90.3	93.0	94.6	95.4	96.5	97.1	97.3	97.4	97.5	97.5	97.5
IV 200	47.0	76.9	82.5	85.9	89.0	90.3	93.0	94.8	95.5	96.6	97.4	97.5	97.9	98.1	98.1	98.1
IV 100	47.0	76.9	82.5	85.9	89.0	90.3	93.0	94.8	95.5	96.6	97.4	97.5	98.0	98.3	98.3	99.1
IV 0	47.0	76.9	82.5	85.9	89.0	90.3	93.0	94.8	95.5	96.6	97.4	97.5	98.0	98.3	98.4	100.0

TOTAL NUMBER OF OBSERVATIONS 802

FEDERAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

1-639
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

DEC
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0300-0500
LOCAL TIME

CEILING FEET	VISIBILITY STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1	≥1	≥1	≥1	≥1	≥1	≥1	≥1
NO CEILING	19.4	26.6	26.6	27.3	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.6	27.6	27.6	27.6	27.6
≥ 20000	19.4	26.6	27.4	27.9	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.3	28.3	28.3	28.3	28.3
≥ 18000	19.9	26.6	27.4	27.9	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.3	28.3	28.3	28.3	28.3
IV 16000	19.9	26.6	27.4	27.9	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.3	28.3	28.3	28.3	28.3
≥ 14000	19.9	26.6	27.4	27.9	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.3	28.3	28.3	28.3	28.3
IV 12000	19.9	26.6	27.4	27.9	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.3	28.3	28.3	28.3	28.3
≥ 10000	20.8	27.5	28.3	28.8	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.1	29.1	29.1	29.1	29.1
IV 9000	20.8	27.5	28.3	28.8	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.1	29.1	29.1	29.1	29.1
≥ 8000	22.1	28.9	29.6	30.1	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.5	30.5	30.5	30.5	30.5
IV 7000	23.1	30.3	31.0	31.5	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.9	31.9	31.9	31.9	31.9
≥ 6000	24.0	31.1	31.9	32.4	32.6	32.6	32.6	32.6	32.6	32.6	32.6	32.8	32.8	32.8	32.8	32.8
IV 5000	25.0	32.5	33.3	33.8	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.1	34.1	34.1	34.1	34.1
≥ 4500	27.0	35.4	36.1	36.9	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.3	37.3	37.3	37.3	37.3
IV 4000	27.0	35.9	36.8	37.5	37.8	37.8	37.8	37.8	37.8	37.8	37.8	37.9	37.9	37.9	37.9	37.9
≥ 3500	28.8	38.4	39.3	40.1	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.5	40.5	40.5	40.5	40.5
IV 3000	32.0	43.0	43.9	45.3	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.6	45.6	45.6	45.6	45.6
≥ 2500	36.3	49.9	51.1	52.9	53.4	53.4	53.4	53.4	53.4	53.4	53.4	53.5	53.5	53.5	53.5	53.5
IV 2000	40.5	56.9	58.6	61.1	62.5	62.5	62.5	62.5	62.5	62.5	62.5	63.5	63.5	63.5	63.5	63.5
≥ 1800	41.4	60.9	62.8	65.5	66.9	67.3	67.3	67.3	67.3	67.3	67.3	68.4	68.4	68.4	68.4	68.4
IV 1500	45.4	69.1	72.3	75.6	77.6	78.1	78.9	80.1	80.1	80.1	80.1	80.3	80.3	80.3	80.3	80.3
≥ 1200	47.1	72.4	75.9	79.4	81.8	82.3	83.1	84.4	84.4	84.4	84.4	84.5	84.5	84.5	84.5	84.5
IV 1000	48.1	74.8	78.5	82.4	85.1	85.8	86.8	88.3	88.3	88.6	88.6	88.8	88.8	88.8	88.8	88.8
≥ 900	48.1	75.9	79.6	83.5	86.5	87.1	88.3	89.8	89.8	90.1	90.3	90.3	90.3	90.3	90.3	90.3
IV 800	48.1	75.9	80.1	84.0	87.1	87.9	89.1	90.6	90.6	91.0	91.1	91.1	91.1	91.1	91.1	91.1
≥ 700	48.1	75.9	81.0	84.9	88.0	88.8	90.8	91.5	91.5	91.9	92.0	92.0	92.0	92.0	92.0	92.0
IV 600	48.1	75.9	81.1	85.0	88.3	89.0	90.4	91.9	91.9	92.4	92.5	92.5	92.5	92.5	92.5	92.5
≥ 500	48.1	76.1	81.5	85.8	89.0	89.8	91.5	93.0	93.0	93.9	94.0	94.0	94.0	94.0	94.0	94.0
IV 400	48.1	76.1	81.6	85.9	89.1	90.0	92.0	93.6	93.6	94.6	94.9	94.9	94.9	95.0	95.0	95.0
≥ 300	48.1	76.1	81.8	86.0	89.3	90.1	92.3	94.5	94.5	95.6	96.1	96.1	96.1	96.3	96.3	96.3
IV 200	48.1	76.1	81.8	86.0	89.4	90.3	93.0	95.5	95.6	96.8	97.5	97.6	98.1	98.3	98.8	98.8
≥ 100	48.1	76.1	81.8	86.0	89.4	90.3	93.0	95.6	95.9	97.1	97.9	98.0	98.5	98.6	99.4	99.6
IV 0	48.1	76.1	81.8	86.0	89.4	90.3	93.0	95.6	95.9	97.1	97.9	98.0	98.5	98.6	99.4	100.0

TOTAL NUMBER OF OBSERVATIONS 800

USAF ETAC FORM 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
 AIR WEATHER SERVICE/MAL

CEILING VERSUS VISIBILITY

7.639 STATION PHELPS-COLLINS/ALPENA MI

73-81

DEC

PERCENTAGE FREQUENCY OF OCCURRENCE
 (FROM HOURLY OBSERVATIONS)

2600-0800
 HOUR 15

CEILING FEET	VISIBILITY (STATUTE MILES)															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1.0	≥0.75	≥0.5	≥0.25	≥0.15	≥0.1	≥0.05	≥0
NO CEILING ≥ 20000	14.7	21.2	21.7	22.1	22.6	22.6	22.9	23.0	23.0	23.2	23.2	23.2	23.2	23.2	23.2	23.2
IV 18000	14.7	21.7	22.2	22.6	23.0	23.0	23.4	23.5	23.5	23.7	23.7	23.7	23.7	23.7	23.7	23.7
IV 16000	15.1	21.8	22.3	22.7	23.2	23.2	23.5	23.7	23.7	23.8	23.8	23.8	23.8	23.8	23.8	23.8
IV 14000	15.2	21.8	22.3	22.7	23.2	23.2	23.5	23.7	23.7	23.8	23.8	23.8	23.8	23.8	23.8	23.8
IV 12000	15.2	22.1	22.6	22.9	23.4	23.4	23.8	23.9	23.9	24.0	24.0	24.0	24.0	24.0	24.0	24.0
IV 10000	16.5	23.4	23.9	24.3	24.8	24.8	25.1	25.2	25.2	25.4	25.4	25.4	25.4	25.4	25.4	25.4
IV 9000	16.5	23.4	23.9	24.3	24.8	24.8	25.1	25.2	25.2	25.4	25.4	25.4	25.4	25.4	25.4	25.4
IV 8000	17.1	24.3	24.8	25.1	25.6	25.6	26.0	26.1	26.1	26.2	26.2	26.2	26.2	26.2	26.2	26.2
IV 7000	18.5	26.1	26.6	27.0	27.4	27.4	27.8	27.9	27.9	28.0	28.0	28.0	28.0	28.0	28.0	28.0
IV 6000	19.1	27.0	27.4	27.8	28.3	28.3	28.7	28.8	28.8	28.9	28.9	28.9	28.9	28.9	28.9	28.9
IV 5000	20.6	28.8	29.4	29.8	30.2	30.2	30.6	30.7	30.7	30.9	30.9	30.9	30.9	30.9	30.9	30.9
IV 4500	22.1	30.4	31.1	31.7	32.2	32.2	32.6	32.7	32.7	32.8	32.8	32.8	32.8	32.8	32.8	32.8
IV 4000	22.4	32.0	32.8	33.7	34.1	34.1	34.5	34.6	34.6	34.8	34.8	34.8	34.8	34.8	34.8	34.8
IV 3500	25.1	34.8	35.7	36.7	37.3	37.3	37.7	37.8	37.8	37.9	37.9	37.9	37.9	37.9	37.9	37.9
IV 3000	28.0	38.2	39.1	40.5	41.3	41.3	41.7	41.8	41.8	42.1	42.1	42.1	42.1	42.1	42.1	42.1
IV 2500	32.4	45.5	46.6	47.9	49.3	49.3	50.1	50.2	50.2	50.5	50.5	50.5	50.5	50.5	50.5	50.5
IV 2000	36.2	52.6	53.9	55.7	58.2	58.4	59.1	59.6	59.6	60.1	60.1	60.1	60.1	60.1	60.1	60.1
IV 1800	37.3	56.1	57.9	60.0	62.4	62.8	63.7	64.1	64.1	64.6	64.6	64.6	64.6	64.6	64.6	64.6
IV 1500	40.1	62.7	64.6	67.0	70.6	71.6	73.0	74.3	74.3	74.9	75.0	75.0	75.0	75.0	75.0	75.0
IV 1200	41.0	67.4	69.6	72.0	76.1	77.1	78.5	80.0	80.0	80.6	80.7	80.7	80.7	80.7	80.7	80.7
IV 1000	41.6	69.1	72.3	74.6	79.6	81.0	82.8	84.5	84.5	85.6	85.7	85.7	85.7	85.7	85.7	85.7
IV 900	41.7	69.8	72.9	75.4	80.5	81.8	83.7	85.4	85.4	86.5	86.6	86.6	86.6	86.6	86.6	86.6
IV 800	42.0	70.5	74.0	77.0	82.7	84.3	86.3	88.2	88.2	89.5	89.6	89.6	89.6	89.6	89.6	89.6
IV 700	42.1	71.4	74.8	77.7	83.4	85.0	87.2	89.1	89.3	90.6	90.9	90.9	90.9	90.9	91.0	91.0
IV 600	42.1	71.0	75.0	78.2	83.9	85.6	88.0	90.1	90.2	91.6	92.0	92.1	92.2	92.2	92.3	92.3
IV 500	42.1	71.2	75.5	78.7	84.5	86.2	89.3	91.5	91.6	93.0	93.5	93.8	93.9	93.9	94.0	94.1
IV 400	42.1	71.2	75.7	79.0	85.1	87.0	90.0	92.2	92.3	94.0	94.5	94.9	95.1	95.1	95.2	95.4
IV 300	42.1	71.3	75.9	79.1	85.2	87.1	90.2	92.8	92.9	94.6	95.5	95.9	96.1	96.1	96.2	96.5
IV 200	42.1	71.3	76.0	79.3	85.3	87.4	90.6	93.8	94.0	96.0	97.3	97.8	98.3	98.4	98.5	98.8
IV 100	42.1	71.3	76.0	79.3	85.3	87.4	90.6	93.8	94.0	96.1	97.6	98.0	98.5	98.8	98.9	99.4
IV 0	42.1	71.3	76.0	79.3	85.3	87.4	90.6	93.8	94.0	96.1	97.6	98.0	98.5	98.8	98.9	100.0

TOTAL NUMBER OF OBSERVATIONS 820

USAF ETAC FORM 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAL

CEILING VERSUS VISIBILITY

705391 PHELPS-COLLINS/ALPENA MI

73-81

DEC

STATION

STATION NAME

YEARS

MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

0900-1100
HOURS

CEILING FEET	VISIBILITY STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1	≥0.5	≥0.25	≥0.15	≥0.1	≥0.05	≥0.025	≥0
NO CEILING	15.1	23.2	23.7	20.8	21.3	21.9	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2
≥ 20000	16.5	22.2	22.7	22.9	23.5	24.2	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4
IV 18000	16.6	22.6	23.0	23.3	23.9	24.5	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8
IV 16000	16.6	22.6	23.0	23.3	23.9	24.5	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8
IV 14000	16.7	22.7	23.2	23.4	24.0	24.7	24.9	24.9	24.9	24.9	24.9	24.9	24.9	24.9	24.9	24.9
IV 12000	16.9	22.8	23.3	23.5	24.2	24.8	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
IV 10000	18.1	24.7	25.2	25.4	26.3	26.9	27.1	27.1	27.1	27.1	27.1	27.1	27.1	27.1	27.1	27.1
IV 9000	18.2	24.8	25.3	25.5	26.4	27.0	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3
IV 8000	19.2	25.8	26.3	26.5	27.4	28.0	28.3	28.3	28.3	28.3	28.3	28.3	28.3	28.3	28.3	28.3
IV 7000	20.2	27.0	27.5	28.0	28.9	29.5	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.7
IV 6000	21.1	28.1	28.6	29.1	30.0	30.6	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9
IV 5000	22.2	29.6	30.1	30.6	31.5	32.1	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3
IV 4500	22.7	30.5	31.0	31.5	32.3	33.0	33.2	33.2	33.2	33.2	33.2	33.2	33.2	33.2	33.2	33.2
IV 4000	23.2	31.6	32.1	32.6	33.5	34.1	34.3	34.3	34.3	34.3	34.3	34.3	34.3	34.3	34.3	34.3
IV 3500	24.3	33.5	34.1	34.8	35.7	36.3	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6
IV 3000	27.0	37.5	38.3	39.2	40.0	40.9	41.3	41.3	41.3	41.4	41.4	41.4	41.4	41.4	41.4	41.4
IV 2500	31.0	43.2	44.6	45.7	47.2	48.3	48.9	48.9	48.9	49.2	49.2	49.2	49.2	49.2	49.2	49.2
IV 2000	34.7	49.9	51.5	53.2	55.5	56.8	57.6	57.9	57.9	58.5	58.7	58.7	58.7	58.9	58.9	58.9
IV 1800	35.2	52.0	53.8	55.9	58.4	59.6	60.6	61.0	61.0	61.7	62.1	62.1	62.1	62.2	62.2	62.2
IV 1500	37.2	59.1	62.1	64.6	67.5	69.4	70.8	72.2	72.5	73.4	73.9	73.9	73.9	74.0	74.0	74.0
IV 1200	37.7	67.3	69.4	68.2	71.3	73.6	75.1	77.0	77.2	78.3	78.9	78.9	78.9	79.1	79.1	79.1
IV 1000	38.2	64.1	67.5	70.5	74.2	76.6	78.3	80.7	80.9	82.9	83.9	83.9	84.3	84.4	84.5	84.5
IV 900	38.2	64.6	68.0	71.1	74.8	77.2	78.9	81.5	81.8	83.9	85.1	85.1	85.5	85.6	85.7	85.7
IV 800	38.3	65.3	68.9	72.5	76.5	78.8	80.5	83.3	83.8	86.1	87.6	88.0	88.5	88.6	88.7	88.7
IV 700	38.3	65.8	69.4	73.2	77.3	79.8	81.7	84.5	85.3	87.6	89.3	89.8	90.3	90.5	90.6	90.6
IV 600	38.3	66.2	69.9	73.9	78.6	81.4	82.9	86.1	86.9	89.3	91.2	91.7	92.3	92.4	92.6	92.6
IV 500	38.5	66.2	69.9	74.0	79.1	81.8	83.9	87.2	88.1	90.7	92.7	93.2	94.2	94.3	94.5	94.5
IV 400	38.5	66.2	69.9	74.1	79.2	82.0	84.4	87.9	88.7	91.4	93.4	93.9	95.2	95.4	95.7	95.7
IV 300	38.5	66.2	69.9	74.3	79.4	82.4	84.9	88.5	89.5	92.4	94.9	95.4	96.7	97.1	97.4	97.4
IV 200	38.5	66.2	69.9	74.3	79.4	82.4	85.0	88.7	89.7	92.7	95.3	95.9	97.6	98.1	99.1	99.3
IV 100	38.5	66.2	69.9	74.3	79.4	82.4	85.0	88.7	89.7	92.7	95.3	95.9	97.6	98.3	99.4	100.0
IV 0	38.5	66.2	69.9	74.3	79.4	82.4	85.0	88.7	89.7	92.7	95.3	95.9	97.6	98.3	99.4	100.0

TOTAL NUMBER OF OBSERVATIONS 807

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

120590
STATION

PHILIPS-COLLINS/ALPENA MI
STATION NAME

13-81
YEARS

ULC
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1200-1400
HOURS

CEILING FEET	VISIBILITY - STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1.25	≥ 1	≥ .75	≥ .5	≥ .25	≥ .16	≥ .1	≥ 0
NO CEILING	17.5	23.5	24.0	24.4	24.4	24.5	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
≥ 20000	19.3	26.3	26.9	27.4	27.4	27.6	27.7	27.7	27.7	27.7	27.7	27.7	27.7	27.7	27.7	27.7
≥ 18000	19.3	26.6	27.2	27.7	27.7	27.8	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9
≥ 16000	19.3	26.6	27.2	27.7	27.7	27.8	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9
≥ 14000	19.3	26.6	27.2	27.7	27.7	27.8	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9
≥ 12000	19.3	26.6	27.2	27.7	27.7	27.8	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9
≥ 10000	20.5	28.9	29.5	30.0	30.1	30.3	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4
≥ 9000	20.5	29.0	29.6	30.1	30.3	30.4	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
≥ 8000	20.5	29.6	30.3	30.8	30.9	31.0	31.1	31.1	31.1	31.1	31.1	31.1	31.1	31.1	31.1	31.1
≥ 7000	21.5	30.5	31.1	31.6	31.7	31.9	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
≥ 6000	21.5	30.9	31.5	32.0	32.1	32.2	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3
≥ 5000	22.9	32.3	33.1	33.6	33.7	33.8	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.9
≥ 4500	23.6	33.7	34.4	35.1	35.2	35.3	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4
≥ 4000	23.7	34.3	35.1	35.8	35.9	36.2	36.3	36.3	36.3	36.3	36.3	36.3	36.3	36.3	36.3	36.3
≥ 3500	24.4	34.9	36.0	36.8	36.9	37.3	37.4	37.4	37.4	37.4	37.4	37.4	37.4	37.4	37.4	37.4
≥ 3000	26.3	37.4	38.5	39.2	39.4	39.7	40.0	40.1	40.1	40.1	40.1	40.1	40.1	40.1	40.1	40.1
≥ 2500	30.0	42.8	44.0	45.4	45.6	46.2	46.6	46.9	46.9	47.0	47.0	47.0	47.0	47.0	47.0	47.0
≥ 2000	34.2	51.4	53.3	55.2	56.2	56.9	57.8	58.2	58.2	58.3	58.5	58.5	58.5	58.5	58.5	58.5
≥ 1800	36.3	55.6	57.6	59.8	60.8	61.7	62.7	63.3	63.3	63.5	63.7	63.7	63.7	63.7	63.7	63.7
≥ 1500	38.6	64.1	61.5	70.5	72.9	74.0	75.5	77.2	77.4	77.9	78.6	78.6	78.6	78.6	78.6	78.6
≥ 1200	38.6	66.4	69.5	72.8	76.0	77.4	79.0	80.9	81.1	81.8	82.9	83.0	83.0	83.0	83.0	83.0
≥ 1000	38.6	68.4	71.7	75.5	78.8	80.2	81.9	84.4	84.5	85.9	87.3	87.5	87.5	87.5	87.5	87.5
≥ 900	38.6	69.0	72.4	76.8	80.2	81.5	83.5	86.0	86.2	87.6	89.2	89.3	89.3	89.3	89.3	89.3
≥ 800	38.6	69.5	72.9	77.4	81.3	82.7	84.7	87.3	87.6	89.1	90.9	91.1	91.1	91.1	91.1	91.1
≥ 700	38.7	69.7	73.2	78.0	82.2	83.6	85.7	88.6	88.8	90.5	92.4	92.6	92.6	92.6	92.6	92.6
≥ 600	38.7	70.0	73.6	78.5	82.7	84.1	86.3	89.2	89.5	91.3	93.1	93.4	93.5	93.5	93.5	93.5
≥ 500	38.7	70.0	73.6	79.1	83.6	85.1	87.6	90.5	90.9	92.7	94.6	94.8	95.2	95.2	95.2	95.2
≥ 400	38.7	70.0	73.6	79.1	83.6	85.4	88.3	91.5	91.9	94.0	95.8	96.1	96.8	96.8	96.8	96.8
≥ 300	38.7	70.0	73.6	79.1	83.6	85.5	88.6	91.9	92.3	94.6	96.9	97.2	98.0	98.0	98.2	98.2
≥ 200	38.7	70.0	73.6	79.1	83.6	85.5	88.6	91.9	92.3	94.6	96.9	97.3	98.9	98.9	99.5	99.6
≥ 100	38.7	70.0	73.6	79.1	83.6	85.5	88.6	91.9	92.3	94.6	96.9	97.3	98.9	99.0	99.8	100.0
≥ 0	38.7	70.0	73.6	79.1	83.6	85.5	88.6	91.9	92.3	94.6	96.9	97.3	98.9	99.0	99.8	100.0

TOTAL NUMBER OF OBSERVATIONS 813

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

1/63Y/ STATION NAME
PHELPS-COLLINS/ALPENA MI

73-81

DEC

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

15.00-17.00

CEILING FEET	VISIBILITY STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1.4	≥1	≥.9	≥.8	≥.7	≥.6	≥.5	≥.4
NO CEILING	16.4	22.3	22.6	22.6	22.6	22.6	22.7	23.0	23.0	23.1	23.2	23.2	23.2	23.2	23.2	23.2
≥ 20000	18.2	25.6	26.2	26.2	26.2	26.2	26.3	26.6	26.6	26.7	26.8	26.8	26.8	26.8	26.8	26.8
≥ 18000	18.2	25.6	26.2	26.2	26.2	26.2	26.3	26.6	26.6	26.7	26.8	26.8	26.8	26.8	26.8	26.8
≥ 16000	18.2	25.6	26.2	26.2	26.2	26.2	26.3	26.6	26.6	26.7	26.8	26.8	26.8	26.8	26.8	26.8
≥ 14000	18.2	25.6	26.2	26.2	26.2	26.2	26.3	26.6	26.6	26.7	26.8	26.8	26.8	26.8	26.8	26.8
≥ 12000	18.2	25.6	26.2	26.2	26.2	26.2	26.3	26.6	26.6	26.7	26.8	26.8	26.8	26.8	26.8	26.8
≥ 10000	20.2	28.9	29.5	29.5	29.5	29.5	29.7	29.9	29.9	30.0	30.1	30.1	30.1	30.1	30.1	30.1
≥ 9000	20.5	29.3	29.9	29.9	29.9	29.9	30.0	30.3	30.3	30.4	30.5	30.5	30.5	30.5	30.5	30.5
≥ 8000	21.7	31.3	32.0	32.0	32.0	32.1	32.3	32.5	32.5	32.6	32.8	32.8	32.8	32.8	32.8	32.8
≥ 7000	22.3	32.4	33.1	33.1	33.1	33.5	33.4	33.6	33.6	33.7	33.9	33.9	33.9	33.9	33.9	33.9
≥ 6000	23.3	33.4	34.1	34.1	34.1	34.2	34.4	34.6	34.6	34.7	34.9	34.9	34.9	34.9	34.9	34.9
≥ 5000	24.6	35.4	36.1	36.1	36.1	36.2	36.4	36.6	36.6	36.7	36.8	36.8	36.8	36.8	36.8	36.8
≥ 4500	25.9	37.1	37.8	37.8	37.8	38.1	38.3	38.6	38.6	38.7	38.8	38.8	38.8	38.8	38.8	38.8
≥ 4000	26.3	37.6	38.3	38.3	38.3	38.6	38.8	39.1	39.1	39.2	39.3	39.3	39.3	39.3	39.3	39.3
≥ 3500	27.2	38.8	39.7	39.7	39.7	40.1	40.3	40.6	40.6	40.7	40.8	40.8	40.8	40.8	40.8	40.8
≥ 3000	27.3	42.1	43.4	43.4	43.4	43.9	44.2	44.4	44.4	44.5	44.7	44.7	44.7	44.7	44.7	44.7
≥ 2500	34.0	50.2	52.1	53.0	53.1	53.8	54.2	54.5	54.5	54.6	54.7	54.7	54.7	54.7	54.7	54.7
≥ 2000	38.7	58.6	60.9	62.7	63.0	64.0	64.6	65.0	65.0	65.3	65.4	65.4	65.4	65.4	65.4	65.4
≥ 1800	40.2	62.7	65.6	67.5	68.2	69.4	70.1	71.0	71.0	71.2	71.5	71.5	71.5	71.5	71.5	71.5
≥ 1500	41.8	68.4	72.2	74.6	76.1	77.8	79.0	80.6	80.6	81.5	82.0	82.1	82.1	82.1	82.1	82.1
≥ 1200	41.8	69.6	73.9	76.8	78.7	80.5	82.0	84.0	84.1	85.1	85.9	86.0	86.0	86.0	86.0	86.0
≥ 1000	41.9	71.0	75.4	78.5	80.6	82.9	84.4	86.6	87.0	88.1	89.0	89.1	89.1	89.1	89.1	89.1
≥ 900	41.9	71.1	75.6	78.7	80.9	83.1	84.7	87.0	87.3	88.5	89.3	89.7	89.7	89.7	89.7	89.7
≥ 800	41.9	71.3	76.1	79.3	81.5	83.9	85.6	87.8	88.2	89.5	90.4	90.7	90.9	90.9	90.9	90.9
≥ 700	41.9	71.6	76.6	80.0	82.6	85.0	86.8	89.1	89.5	90.8	92.1	92.4	92.7	92.7	92.7	92.7
≥ 600	41.9	71.6	76.8	80.4	83.1	85.6	87.7	90.1	90.4	91.9	93.3	93.7	94.3	94.3	94.3	94.3
≥ 500	41.9	71.7	77.0	80.8	83.6	86.1	88.3	90.9	91.6	93.1	94.7	95.0	95.9	96.2	96.2	96.2
≥ 400	41.9	71.7	77.0	80.9	84.2	86.7	89.1	91.7	92.4	94.5	96.2	96.5	97.6	97.9	98.0	98.0
≥ 300	41.9	71.7	77.0	80.9	84.2	86.7	89.1	91.8	92.6	94.8	96.7	97.0	98.1	98.5	98.8	98.8
≥ 200	41.9	71.7	77.0	80.9	84.2	86.7	89.1	91.8	92.6	95.0	97.0	97.4	98.5	99.1	99.5	99.5
≥ 100	41.9	71.7	77.0	80.9	84.2	86.7	89.1	91.8	92.6	95.0	97.1	97.5	98.6	99.4	99.9	100.0
≥ 0	41.9	71.7	77.0	80.9	84.2	86.7	89.1	91.8	92.6	95.0	97.1	97.5	98.6	99.4	99.9	100.0

TOTAL NUMBER OF OBSERVATIONS 806

ALPENA CLIMATE DATA CENTER
 TOTAL
 WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

STATION NAME: ALPENA-COLLINS/ALPENA MI

73-81

YEARS

DEC

PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

1800-2000
 HOURS (LT)

CEILING FEET	VISIBILITY - STATUTE MILES															
	≥10	≥8	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1.4	≥1	≥.5	≥.4	≥.3	≥.25	≥.2	≥.1
NO CEILING	19.4	25.0	25.5	25.5	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4
≥ 20000	22.4	28.4	28.4	28.4	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0
≥ 18000	20.4	24.5	24.5	24.5	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1
≥ 16000	21.4	28.5	29.0	29.0	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1
≥ 14000	20.5	24.6	29.1	29.1	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2
≥ 12000	21.0	24.2	29.7	29.7	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8
≥ 10000	21.9	24.8	30.3	30.3	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4
≥ 9000	21.6	24.8	30.3	30.3	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4
≥ 8000	25.1	31.4	32.0	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
≥ 7000	24.4	32.8	33.4	33.4	33.5	33.5	33.5	33.5	33.5	33.5	33.5	33.5	33.5	33.5	33.5	33.5
≥ 6000	24.7	33.3	33.9	33.9	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0
≥ 5000	25.0	34.0	34.6	34.6	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7
≥ 4500	25.5	35.1	36.1	36.2	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4
≥ 4000	25.6	35.6	36.6	36.7	36.9	36.9	36.9	36.9	36.9	36.9	36.9	36.9	36.9	36.9	36.9	36.9
≥ 3500	28.1	38.2	39.4	39.6	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
≥ 3000	30.4	41.8	43.7	44.2	44.9	44.9	44.9	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0
≥ 2500	36.3	51.7	54.4	55.3	56.7	56.8	57.1	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2
≥ 2000	40.0	60.9	63.7	65.3	67.4	68.1	68.5	69.0	69.0	69.1	69.1	69.1	69.1	69.1	69.1	69.1
≥ 1800	41.6	64.5	68.1	69.6	72.1	72.4	73.1	73.7	73.7	73.9	73.9	73.9	73.9	73.9	73.9	73.9
≥ 1500	43.9	71.5	75.6	77.5	80.6	81.0	82.2	82.9	82.9	83.1	83.1	83.1	83.1	83.1	83.1	83.1
≥ 1200	44.4	73.3	77.9	80.0	83.1	83.6	84.8	85.6	85.9	86.0	86.0	86.0	86.0	86.0	86.0	86.0
≥ 1000	44.7	74.1	79.8	82.0	85.4	85.9	87.1	88.0	88.3	88.7	88.7	88.7	88.7	88.7	88.7	88.7
≥ 900	44.8	74.4	80.2	82.7	86.4	86.9	88.2	89.1	89.4	89.8	89.8	89.8	89.8	89.8	89.8	89.8
≥ 800	44.9	74.7	80.9	83.3	87.5	88.2	89.6	90.4	90.8	91.3	91.3	91.4	91.4	91.4	91.4	91.4
≥ 700	44.9	74.7	81.0	83.4	87.6	88.5	89.9	90.8	91.2	91.7	91.8	91.9	91.9	91.9	91.9	91.9
≥ 600	44.9	74.8	81.2	84.2	88.5	89.4	91.0	92.0	92.5	93.3	93.5	93.6	93.6	93.6	93.6	93.6
≥ 500	45.0	75.0	81.8	84.8	89.2	90.3	92.3	93.4	93.9	94.7	95.0	95.1	95.6	95.6	95.6	95.6
≥ 400	45.0	75.0	81.8	84.9	89.3	90.4	92.5	93.9	94.5	95.3	96.0	96.1	96.7	96.7	96.7	96.7
≥ 300	45.0	75.0	81.8	84.9	89.4	90.6	92.8	94.1	94.7	96.0	96.9	97.1	97.9	98.0	98.0	98.0
≥ 200	45.0	75.0	81.8	84.9	89.4	90.7	92.9	94.2	94.8	96.4	97.7	97.8	98.8	99.0	99.0	99.0
≥ 100	45.0	75.0	81.8	84.9	89.4	90.7	92.9	94.2	94.8	96.6	97.8	97.9	98.9	99.1	99.4	100.0
≥ 0	45.0	75.0	81.8	84.9	89.4	90.7	92.9	94.2	94.8	96.6	97.8	97.9	98.9	99.1	99.4	100.0

TOTAL NUMBER OF OBSERVATIONS 815

GENERAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

STATION: PHILIPS-COLLINS/ALPENA MI

DATE: 13-81

MONTH: DEC

PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

2100-2300
HOURS (EST)

CEILING (FEET)	VISIBILITY (STATUTE MILES)															
	≥10	≥6	≥5	≥4	≥3	≥2½	≥2	≥1½	≥1¼	≥1	¾	¾	¾	¾	¾	≥0
NO CEILING	19.4	25.1	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.5	25.5	25.5	25.6	25.6	25.6
≥ 20000	20.6	27.0	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.5	27.5	27.5	27.6	27.6	27.6
≥ 18000	20.6	27.0	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.5	27.5	27.5	27.6	27.6	27.6
≥ 16000	20.6	27.0	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.5	27.5	27.5	27.6	27.6	27.6
≥ 14000	20.7	27.1	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.6	27.6	27.6	27.7	27.7	27.7
≥ 12000	21.0	27.3	27.7	27.7	27.7	27.7	27.7	27.7	27.7	27.7	27.8	27.8	27.8	27.9	27.9	27.9
≥ 10000	22.1	28.4	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.9	28.9	28.9	29.0	29.0	29.0
≥ 9000	22.1	28.4	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.9	28.9	28.9	29.0	29.0	29.0
≥ 8000	22.7	29.7	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.3	30.3	30.3	30.4	30.4	30.4
≥ 7000	22.7	30.4	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	31.0	31.0	31.0	31.1	31.1	31.1
≥ 6000	23.5	31.6	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.2	32.2	32.4	32.4	32.4
≥ 5000	24.8	33.1	33.7	33.7	33.7	33.7	33.7	33.7	33.7	33.7	33.8	33.8	33.8	33.9	33.9	33.9
≥ 4500	25.6	35.4	36.3	36.3	36.3	36.3	36.3	36.3	36.3	36.3	36.4	36.4	36.4	36.5	36.5	36.5
≥ 4000	25.6	35.8	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.8	36.8	36.8	36.9	36.9	36.9
≥ 3500	27.8	38.7	39.6	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.8	39.8	39.8	40.0	40.0	40.0
≥ 3000	31.3	43.8	45.3	46.2	46.3	46.3	46.3	46.3	46.3	46.3	46.4	46.4	46.4	46.6	46.6	46.6
≥ 2500	35.4	51.3	53.4	54.8	55.0	55.0	55.3	55.3	55.3	55.4	55.4	55.4	55.4	55.5	55.5	55.5
≥ 2000	39.0	60.8	63.5	65.2	65.9	65.9	67.0	67.0	67.3	67.3	67.4	67.4	67.4	67.5	67.5	67.5
≥ 1800	40.8	64.2	67.3	69.2	70.1	70.1	71.2	71.6	71.6	71.7	71.7	71.7	71.7	71.8	71.8	71.8
≥ 1500	43.6	72.2	75.7	77.9	79.0	79.0	80.5	80.9	80.9	81.0	81.0	81.0	81.0	81.1	81.1	81.1
≥ 1200	43.9	73.8	77.9	80.3	81.9	82.0	83.5	83.8	83.8	84.1	84.2	84.2	84.3	84.3	84.3	84.3
≥ 1000	44.9	75.7	80.3	82.7	84.6	84.7	86.6	87.1	87.1	87.6	87.7	87.7	87.9	87.9	87.9	87.9
≥ 900	45.0	76.1	80.6	83.1	84.9	85.0	87.1	87.6	87.6	88.1	88.2	88.2	88.4	88.4	88.4	88.4
≥ 800	45.1	76.7	81.6	84.2	86.0	86.3	88.5	89.3	89.3	89.8	90.0	90.0	90.1	90.1	90.1	90.1
≥ 700	45.1	77.0	82.0	84.8	86.9	87.1	89.6	90.6	90.8	91.4	91.5	91.7	91.8	91.8	91.8	91.8
≥ 600	45.1	77.1	82.4	85.2	87.4	87.6	90.4	91.7	91.9	92.6	92.8	93.0	93.1	93.1	93.1	93.1
≥ 500	45.2	77.3	82.6	85.7	88.1	88.4	91.3	92.6	92.9	93.9	94.0	94.2	94.4	94.4	94.4	94.4
≥ 400	45.2	77.6	83.0	86.2	89.1	89.3	92.4	93.8	94.0	95.5	95.6	95.8	96.0	96.0	96.0	96.0
≥ 300	45.2	77.6	83.2	86.4	89.5	89.8	92.9	94.2	94.5	96.1	96.2	96.4	96.7	97.1	97.1	97.1
≥ 200	45.2	77.6	83.2	86.4	89.5	89.8	93.3	94.7	95.0	96.6	96.7	96.9	97.5	97.9	98.0	98.0
≥ 100	45.2	77.6	83.2	86.6	89.7	90.1	93.5	95.0	95.2	96.9	97.3	97.5	98.2	98.5	98.7	99.5
≥ 0	45.2	77.6	83.2	86.6	89.7	90.1	93.5	95.0	95.2	96.9	97.3	97.5	98.2	98.5	98.7	100.0

TOTAL NUMBER OF OBSERVATIONS 816

USAF ETAC FORM 10-14-3 (DL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

STATION: HELPS-COLLINS/ALPENA MI

73-81

DEC
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

ALL
HOURS

CEILING FEET	VISIBILITY STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1.4	≥ 1	≥ .5	≥ .4	≥ .3	≥ .25	≥ .2	≥ 0
NO CEILING	17.8	24.2	24.4	24.6	24.7	24.8	24.9	25.0	25.0	25.0	25.1	25.1	25.1	25.1	25.1	25.1
≥ 20000	17.0	23.7	23.4	23.6	23.8	23.9	27.0	27.1	27.1	27.1	27.1	27.1	27.1	27.2	27.2	27.2
≥ 18000	19.4	26.0	26.5	26.7	26.9	27.0	27.1	27.2	27.2	27.2	27.3	27.3	27.3	27.3	27.3	27.3
≥ 16000	19.3	26.0	26.5	26.7	26.9	27.0	27.1	27.2	27.2	27.2	27.3	27.3	27.3	27.3	27.3	27.3
≥ 14000	19.1	26.1	26.6	26.9	27.0	27.1	27.2	27.3	27.3	27.3	27.4	27.4	27.4	27.4	27.4	27.4
≥ 12000	19.5	26.5	27.1	27.3	27.5	27.6	27.7	27.7	27.7	27.8	27.8	27.8	27.8	27.8	27.8	27.8
≥ 10000	20.4	27.8	28.4	28.6	28.8	28.9	29.0	29.0	29.0	29.1	29.1	29.1	29.1	29.1	29.1	29.1
≥ 9000	20.5	28.7	29.5	28.7	28.9	29.0	29.1	29.2	29.2	29.2	29.3	29.3	29.3	29.3	29.3	29.3
≥ 8000	21.3	29.1	29.7	29.9	30.1	30.2	30.3	30.4	30.4	30.4	30.5	30.5	30.5	30.5	30.5	30.5
≥ 7000	22.1	30.3	30.8	31.1	31.3	31.4	31.5	31.6	31.6	31.6	31.6	31.6	31.7	31.7	31.7	31.7
≥ 6000	22.8	31.1	31.7	31.9	32.2	32.3	32.4	32.4	32.4	32.5	32.5	32.5	32.5	32.5	32.5	32.5
≥ 5000	24.0	32.6	33.7	33.5	33.7	33.8	33.9	34.0	34.0	34.0	34.0	34.0	34.1	34.1	34.1	34.1
≥ 4500	25.1	34.4	35.1	35.5	35.7	35.9	36.0	36.0	36.0	36.1	36.1	36.1	36.1	36.1	36.1	36.1
≥ 4000	25.4	35.1	35.9	36.3	36.5	36.7	36.8	36.8	36.8	36.9	36.9	36.9	36.9	36.9	36.9	36.9
≥ 3500	26.9	37.1	38.0	38.5	38.8	39.0	39.1	39.2	39.2	39.2	39.2	39.2	39.2	39.2	39.2	39.2
≥ 3000	29.7	41.0	42.2	43.0	43.4	43.6	43.9	43.8	43.8	43.9	44.0	44.0	44.0	44.0	44.0	44.0
≥ 2500	34.1	46.2	49.9	51.1	51.9	52.2	52.5	52.6	52.6	52.8	52.8	52.8	52.8	52.8	52.8	52.8
≥ 2000	38.0	56.4	58.6	60.4	61.9	62.4	63.0	63.4	63.4	63.7	63.8	63.8	63.8	63.8	63.8	63.8
≥ 1800	39.5	60.0	62.4	64.5	66.1	66.7	67.5	68.1	68.1	68.3	68.5	68.5	68.5	68.5	68.5	68.5
≥ 1500	41.9	67.2	70.5	73.0	75.2	76.1	77.4	78.6	78.6	79.0	79.3	79.3	79.3	79.3	79.3	79.3
≥ 1200	42.6	69.8	73.4	76.1	78.7	79.8	81.1	82.5	82.6	83.1	83.5	83.5	83.5	83.5	83.5	83.5
≥ 1000	45.1	71.5	75.6	78.5	81.5	82.7	84.3	85.9	86.0	87.0	87.4	87.5	87.5	87.5	87.5	87.5
≥ 900	45.1	72.0	76.2	79.2	82.3	83.5	85.2	86.8	87.0	87.9	88.5	88.5	88.5	88.6	88.6	88.6
≥ 800	43.2	72.4	76.9	80.1	83.4	84.7	86.5	88.2	88.5	89.5	90.1	90.2	90.4	90.4	90.4	90.4
≥ 700	43.3	72.7	77.4	80.8	84.3	85.6	87.5	89.3	89.6	90.7	91.4	91.6	91.7	91.7	91.7	91.7
≥ 600	43.3	72.9	77.7	81.2	84.8	86.2	88.3	90.2	90.6	91.8	92.5	92.8	93.0	93.0	93.0	93.0
≥ 500	43.3	73.0	78.0	81.7	85.6	87.0	89.4	91.4	91.8	93.2	94.0	94.3	94.6	94.7	94.7	94.7
≥ 400	43.3	73.1	78.1	81.9	86.0	87.5	90.0	92.2	92.7	94.3	95.2	95.4	96.0	96.0	96.1	96.1
≥ 300	43.3	73.1	78.2	82.1	86.2	87.8	90.5	92.8	93.3	95.1	96.3	96.5	97.1	97.3	97.4	97.5
≥ 200	43.3	73.1	78.2	82.1	86.3	87.9	90.7	93.2	93.7	95.6	97.0	97.3	98.2	98.5	98.8	98.9
≥ 100	43.3	73.1	78.2	82.1	86.3	87.9	90.7	93.2	93.7	95.7	97.2	97.5	98.4	98.7	99.2	99.7
≥ 0	43.3	73.1	78.2	82.1	86.3	87.9	90.7	93.2	93.7	95.7	97.2	97.5	98.4	98.7	99.2	100.0

TOTAL NUMBER OF OBSERVATIONS: 6474

CELESTIAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAL

CEILING VERSUS VISIBILITY

1 039 PHILIPS-COLLINS/ALPENA MI

73-81

ALL

STATION

STATION NAME

YEARS

MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

ALL
HOURS LST

CEILING (FEET)	VISIBILITY (STATUTE MILES)															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1.4	≥1	≥.5	≥.4	≥.3	≥.25	≥.2	≥.0
NO CEILING	26.5	41.1	42.1	42.9	43.6	43.7	43.9	44.1	44.1	44.2	44.3	44.3	44.3	44.3	44.4	44.5
≥ 20000	25.4	44.1	45.8	46.7	47.5	47.6	47.9	48.1	48.1	48.2	48.3	48.3	48.3	48.4	48.4	48.5
IVN 18000	28.5	44.7	45.9	46.8	47.5	47.7	48.0	48.1	48.2	48.3	48.4	48.4	48.4	48.4	48.5	48.6
IVN 16000	28.5	44.7	45.9	46.8	47.5	47.7	48.0	48.1	48.2	48.3	48.4	48.4	48.4	48.4	48.5	48.6
IVN 14000	29.6	44.7	46.1	47.0	47.8	47.9	48.2	48.4	48.4	48.5	48.6	48.6	48.7	48.7	48.7	48.8
IVN 12000	29.0	45.7	46.9	47.8	48.6	48.8	49.1	49.2	49.2	49.4	49.4	49.4	49.5	49.5	49.6	49.7
IVN 10000	29.9	47.3	48.6	49.6	50.4	50.6	50.9	51.1	51.1	51.2	51.3	51.3	51.4	51.4	51.5	51.6
IVN 9000	30.1	47.6	48.9	49.9	50.7	50.9	51.2	51.4	51.4	51.6	51.6	51.6	51.7	51.7	51.8	51.9
IVN 8000	31.3	49.4	50.8	51.9	52.8	53.0	53.3	53.5	53.5	53.7	53.7	53.8	53.8	53.8	53.9	54.0
IVN 7000	32.1	50.7	52.1	53.2	54.1	54.3	54.7	54.9	54.9	55.0	55.1	55.1	55.2	55.2	55.3	55.4
IVN 6000	32.7	51.7	53.1	54.3	55.2	55.5	55.8	56.0	56.0	56.2	56.3	56.3	56.3	56.3	56.4	56.5
IVN 5000	33.1	53.5	55.1	56.3	57.3	57.6	58.0	58.2	58.2	58.4	58.4	58.4	58.5	58.5	58.6	58.7
IVN 4500	35.0	55.6	57.3	58.7	59.7	60.0	60.4	60.6	60.7	60.8	60.9	60.9	61.0	61.0	61.1	61.2
IVN 4000	35.6	56.6	58.4	59.8	60.9	61.2	61.6	61.8	61.9	62.0	62.1	62.1	62.2	62.2	62.3	62.4
IVN 3500	37.0	59.0	60.5	62.4	63.6	63.9	64.3	64.6	64.6	64.8	64.9	64.9	65.0	65.0	65.1	65.2
IVN 3000	39.0	62.2	64.3	65.9	67.2	67.6	68.0	68.3	68.3	68.5	68.6	68.6	68.7	68.7	68.8	68.9
IVN 2500	41.5	66.7	69.0	70.9	72.4	72.7	73.3	73.6	73.6	73.9	74.0	74.0	74.1	74.1	74.2	74.3
IVN 2000	43.5	70.9	73.5	75.6	77.3	77.8	78.5	78.9	78.9	79.2	79.3	79.3	79.4	79.4	79.5	79.6
IVN 1800	44.2	72.3	75.0	77.2	79.0	79.5	80.3	80.7	80.7	81.0	81.1	81.1	81.2	81.3	81.3	81.5
IVN 1500	45.5	75.6	78.6	81.0	83.1	83.8	84.7	85.3	85.3	85.7	85.9	85.9	86.0	86.0	86.1	86.2
IVN 1200	46.0	77.2	80.3	82.9	85.1	85.8	86.8	87.5	87.6	87.9	88.2	88.2	88.3	88.3	88.4	88.5
IVN 1000	46.4	78.3	81.6	84.3	86.8	87.6	88.7	89.5	89.6	90.1	90.4	90.4	90.5	90.6	90.6	90.8
IVN 900	46.5	78.6	82.0	84.8	87.3	88.1	89.3	90.0	90.2	90.7	91.0	91.1	91.2	91.2	91.3	91.4
IVN 800	46.6	79.0	82.5	85.4	88.1	88.9	90.2	91.0	91.1	91.7	92.1	92.1	92.3	92.3	92.4	92.5
IVN 700	46.7	79.4	83.0	86.0	88.8	89.7	91.0	91.9	92.1	92.7	93.1	93.2	93.3	93.3	93.4	93.5
IVN 600	46.7	79.6	83.3	86.4	89.3	90.2	91.6	92.6	92.8	93.5	93.9	94.0	94.2	94.2	94.3	94.4
IVN 500	46.7	79.8	83.6	86.8	89.9	91.8	92.4	93.5	93.7	94.5	95.1	95.2	95.4	95.4	95.5	95.7
IVN 400	46.7	79.9	83.8	87.2	90.4	91.5	93.2	94.5	94.8	95.7	96.3	96.4	96.7	96.8	96.9	97.0
IVN 300	46.7	79.9	83.9	87.3	90.7	91.8	93.6	95.1	95.3	96.4	97.1	97.3	97.6	97.7	97.8	98.0
IVN 200	46.7	79.9	83.9	87.4	90.7	91.9	93.9	95.4	95.7	96.9	97.7	97.9	98.3	98.5	98.7	98.9
IVN 100	46.7	79.9	83.9	87.4	90.8	91.9	93.9	95.4	95.8	97.0	97.9	98.1	98.6	98.8	99.2	99.6
IVN 0	46.7	79.9	83.9	87.4	91.8	91.9	93.9	95.4	95.8	97.0	97.9	98.1	98.6	98.8	99.3	100.0

TOTAL NUMBER OF OBSERVATIONS 76747

USAF ETAC FORM 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

PART D

SKY COVER

Stations that report both synoptic and airways observations have had their sky cover reports converted into airways. The synoptic hours have significantly lower observation counts than the airways, hence, a small percentage of observations were reported in the 1/10, 4/10, 5/10, 6/10, and 8/10 categories. In order to use this data more beneficially we have combined:

- 1/10 and 4/10 into the 3/10 (scattered) category
- 5/10, 6/10 and 8/10 into the 9/10 (broken) category
- 0/10 is the clear category
- 10/10 is the overcast category

2

126390	PHELPS-COLLINS/ALPENA MI
STATION	STATION NAME

73-81

JAN
MONTH

MONTH	HOURS (LST)	PERCENTAGE FREQUENCY OF TENTHS OF TOTAL SKY COVER										MEAN TENTHS OF SKY COVER	TOTAL NO. OF OBS.	
		0	1	2	3	4	5	6	7	8	9			10
JAN	10-02	14.7			11.5						12.6	61.2	7.6	817
	03-05	13.6			10.0						10.6	65.8	7.8	809
	06-08	12.8			11.5	.2		.2		.1	11.0	64.0	7.8	825
	09-11	10.7			15.1						14.6	59.5	7.7	820
	12-14	5.3	.2		18.5	.2	.6	.4		.1	24.0	50.7	7.9	817
	15-17	5.5			19.9						21.1	53.4	7.8	814
	18-20	12.2	.1		16.0		.1	.1		.2	13.8	57.4	7.5	820
	21-23	13.5			13.5						11.9	61.0	7.6	813
TOTALS		11.0	.0		14.5	.1	.1	.1		.1	15.0	59.1	7.7	6535

SKY COVER

FEB

STATION

STATION NAME

PERIOD

MONTH

MONTH	HOURS (L.S.T.)	PERCENTAGE FREQUENCY OF TENTHS OF TOTAL SKY COVER										MEAN TENTHS OF SKY COVER	TOTAL NO. OF OBS.	
		0	1	2	3	4	5	6	7	8	9			10
FEB	00-02	22.7			11.3						13.9	52.1	6.8	741
	03-05	22.7			9.5						11.6	56.2	6.9	744
	06-08	15.3	.1		13.2	.1		.1		.1	13.3	59.7	7.6	751
	09-11	11.6			14.6						15.2	58.6	7.7	752
	12-14	5.6	.3		16.8	.1	.1	.1		.3	21.8	54.8	8.0	748
	15-17	8.1			17.3						21.2	53.5	7.8	742
	18-20	13.5	.1		19.3	.1		.4		.4	15.9	50.2	7.1	741
	21-23	20.7			16.6						12.5	50.2	6.6	745
TOTALS		14.8	.1		14.8	.0	.0	.1		.1	15.7	54.4	7.3	5964

FORM
JUL 64

FORM 0.9-5 (OLI)

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SKY COVER

MAR

STATION

STATION NAME

PERIOD

MONTH

MONTH	HOURS (L.S.T.)	PERCENTAGE FREQUENCY OF TENTHS OF TOTAL SKY COVER										MEAN TENTHS OF SKY COVER	TOTAL NO. OF OBS.	
		0	1	2	3	4	5	6	7	8	9			10
MAR	00-02	23.8			12.5						7.5	56.1	6.7	814
	03-05	22.1			10.3						10.2	57.4	7.0	814
	06-08	15.2	.1		15.1	.2	.4				12.0	57.0	7.3	823
	09-11	13.9			15.8						14.2	56.1	7.4	818
	12-14	13.2			16.5		.1			.4	17.6	52.3	7.3	820
	15-17	13.2			16.4						18.7	51.7	7.3	818
	18-20	15.7	.1		18.2	.1				.4	14.0	51.5	7.0	817
	21-23	25.1			11.7						11.9	51.3	6.6	824
TOTALS		17.8	.0		14.6	.0	.1			.1	13.3	54.2	7.1	6548

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SKY COVER

APR

MONTH

MONTH	HOURS (L.S.T.)	PERCENTAGE FREQUENCY OF TENTHS OF TOTAL SKY COVER										MEAN TENTHS OF SKY COVER	TOTAL NO. OF OBS.	
		0	1	2	3	4	5	6	7	8	9	10		
APR	00-04	33.0			12.7						9.8	44.5	5.7	786
	05-09	31.7			13.0						8.7	46.7	5.8	786
	10-14	22.2	.1		13.3		.1				16.5	47.7	6.7	796
	15-19	23.0			13.1						15.9	48.0	6.6	794
	20-24	17.3	.3		15.8	.1	.3	.3		.4	17.1	48.5	6.9	790
	25-29	16.0			16.4						18.2	49.4	7.1	795
	30-MAY	16.6	.5		17.5	.3				.3	15.9	49.2	6.9	794
	JUN-SEP	26.7			17.5						10.8	45.0	6.0	795
	OCT-NOV													
	DEC													
TOTALS		23.3	.1		14.9	.1	.1	.0		.1	14.1	47.4	6.5	6336

FORM
JUL 64

FORM 0-9.5 (OLI)

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

SKY COVER

MAY
MONTH

MONTH	HOURS (L.S.T.)	PERCENTAGE FREQUENCY OF TENTHS OF TOTAL SKY COVER										MEAN TENTHS OF SKY COVER	TOTAL NO. OF OBS	
		0	1	2	3	4	5	6	7	8	9			10
MAY	00-02	34.4			19.5						11.2	34.8	5.1	810
	03-05	30.7			19.9						12.8	36.6	5.4	804
	06-08	21.7	.5		18.1					.2	20.7	38.8	6.3	817
	09-11	19.3			21.8						19.0	39.9	6.4	820
	12-14	16.0	.9		23.3		.2	.4		.4	20.4	38.5	6.5	820
	15-17	14.8			24.1						24.2	36.8	6.6	817
	18-20	15.8	.5		22.6		.1	.4		.5	22.5	37.7	6.5	824
	21-23	27.3			23.2						13.4	36.1	5.5	818
TOTALS		22.5	.2		21.6		.0	.1		.1	18.0	37.4	6.0	6530

SKY COVER

JUN

MONTH

MONTH	HOURS (L.S.T.)	PERCENTAGE FREQUENCY OF TENTHS OF TOTAL SKY COVER										MEAN TENTHS OF SKY COVER	TOTAL NO. OF OBS.	
		0	1	2	3	4	5	6	7	8	9	10		
JUN	00-02	36.0			22.3						11.2	30.5	4.7	786
	03-05	23.4			24.6						15.6	36.4	5.8	788
	06-08	19.5	.3		23.0	.1	.4			.1	18.5	38.2	6.2	791
	09-11	15.4			25.2						23.0	36.4	6.5	794
	12-14	10.0			28.1	.1	.5			1.0	26.2	34.0	6.7	793
	15-17	11.8			30.6						25.8	31.8	6.4	790
	18-20	17.1			26.3		.1	.1		.5	25.1	30.8	6.2	796
	21-23	24.7			28.3						17.0	29.9	5.4	792
TOTALS		19.7	.0		26.1	.0	.1	.0		.2	20.3	35.5	6.0	6330

FORM 0-9-5 (OLI)

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

SKY COVER

JUL

MONTH

MONTH	HOURS [L.S.T.]	PERCENTAGE FREQUENCY OF TENTHS OF TOTAL SKY COVER										MEAN TENTHS OF SKY COVER	TOTAL NO. OF OBS.	
		0	1	2	3	4	5	6	7	8	9	10		
JUL	00-02	43.3			21.7						11.3	23.7	4.0	797
	03-05	34.4			24.7						13.3	27.6	4.7	809
	06-08	23.1			23.6		.5	.1		.8	18.8	33.1	5.8	800
	09-11	19.8			27.7						20.5	32.0	5.9	809
	12-14	11.1			36.2	.1	.4	.1		1.0	20.5	30.6	6.1	820
	15-17	15.0			32.1						25.5	27.4	6.0	822
	18-20	22.3	.4		25.2	.2		.1		1.0	24.8	26.0	5.7	812
	21-23	30.8			29.9						15.2	24.1	4.7	817
TOTALS		25.0	.1		27.6	.0	.1	.0		.4	18.7	28.1	5.4	6486

SKY COVER

AUG

MONTH

MONTH	HOURS (L.S.T.)	PERCENTAGE FREQUENCY OF TENTHS OF TOTAL SKY COVER										MEAN TENTHS OF SKY COVER	TOTAL NO OF OBS.	
		0	1	2	3	4	5	6	7	8	9			10
AUG	00-02	40.4			18.5						12.0	29.1	4.5	794
	03-05	35.1			19.7						13.0	32.2	5.0	777
	06-08	22.8	.1		24.6	.3	.1			.4	18.2	33.5	5.8	793
	09-11	18.9			24.2						21.3	35.6	6.2	809
	12-14	11.1	.1		30.0	.1	.2	.1		.7	24.0	33.5	6.5	809
	15-17	12.1			30.7						24.0	35.1	6.4	815
	18-20	20.5	.1		26.8		.1	.1		.5	22.7	29.2	5.8	811
	21-23	32.3			24.8						14.9	27.9	4.9	798
TOTALS		24.2	.0		24.9	.1	.1	.0		.2	18.8	31.8	5.6	6406

FORM
UN 44

0.9.5 (OLI)

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

SKY COVER

SEP

MONTH

MONTH	HOURS (L.S.T.)	PERCENTAGE FREQUENCY OF TENTHS OF TOTAL SKY COVER										MEAN TENTHS OF SKY COVER	TOTAL NO OF OBS	
		0	1	2	3	4	5	6	7	8	9			10
SEP	00-02	35.0			16.5						10.0	38.5	5.2	771
	03-05	33.2			16.6						9.9	40.3	5.4	784
	06-08	18.6			16.8			.3		.4	19.1	45.0	6.8	787
	09-11	12.2			22.5						20.5	44.8	7.0	777
	12-14	9.6	.3		25.0	.3	.1			1.0	22.7	41.1	7.0	793
	15-17	11.2			23.8						23.7	41.3	7.0	786
	18-20	17.8	.5		25.6	.1		.4		.4	21.2	35.9	6.3	791
	21-23	31.8			20.5						9.4	38.3	5.3	789
TOTALS		21.2	.1		20.7	.1	.0	.1		.2	17.1	40.7	6.3	6278

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

SKY COVER

OCT

MONTH

MONTH	HOURS [L.S.T.]	PERCENTAGE FREQUENCY OF TENTHS OF TOTAL SKY COVER										MEAN TENTHS OF SKY COVER	TOTAL NO. OF OBS.	
		0	1	2	3	4	5	6	7	8	9			10
JUL	00-02	25.5			15.5						10.8	48.3	6.3	789
	03-05	25.4			13.6						13.0	48.0	6.4	787
	06-08	14.6	.2		18.2			.2			18.0	48.7	7.1	813
	09-11	12.1			16.5						19.3	52.0	7.4	817
	12-14	9.7	.1		17.3	.4	.1			.5	22.1	49.7	7.5	813
	15-17	12.2			16.5						19.8	51.5	7.4	819
	18-20	16.0			17.3		.2	.2		.6	14.8	50.8	7.0	815
	21-23	21.9			15.6						11.2	51.4	6.6	814
TOTALS		17.2	.0		16.3	.1	.0	.1		.1	16.1	50.1	7.0	8467

SKY COVER

NOV

MONTH	HOURS (L.S.T.)	PERCENTAGE FREQUENCY OF TENTHS OF TOTAL SKY COVER										MEAN TENTHS OF SKY COVER	TOTAL NO OF OBS	
		0	1	2	3	4	5	6	7	8	9			10
NOV	00-02	16.9			7.4						12.0	63.7	7.7	768
	03-05	17.5			10.8						9.3	62.4	7.4	781
	06-08	12.9			12.9					.4	9.6	64.2	7.7	790
	09-11	8.5			13.6						17.2	60.7	8.0	786
	12-14	11.2	.1		12.2			.1		.4	17.8	58.2	7.8	777
	15-17	11.2			12.6						14.3	61.9	7.9	788
	18-20	13.6			10.7	.1	.1	.3		.3	13.1	61.8	7.7	785
	21-23	16.5			8.6						10.3	64.7	7.6	790
TOTALS		15.5	.0		11.1	.0	.0	.1		.1	13.0	62.2	7.7	6265

SKY COVER

DEC

MONTH	HOURS [L.S.T.]	PERCENTAGE FREQUENCY OF TENTHS OF TOTAL SKY COVER									MEAN TENTHS OF SKY COVER	TOTAL NO. OF OBS.		
		0	1	2	3	4	5	6	7	8			9	10
DEC	00-02	12.2			11.2						12.2	64.4	7.9	803
	03-05	12.3			11.3						9.0	67.4	7.9	797
	06-08	6.7			13.3	.1	.2	.1		.1	9.4	70.1	8.3	822
	09-11	5.9			10.5						12.9	70.7	8.5	809
	12-14	3.3	.1		14.2					.5	16.6	65.3	8.5	815
	15-17	4.8			13.7						17.4	64.0	8.4	809
	18-20	9.1			13.1	.2	.1	.1		.1	13.5	63.7	8.0	816
	21-23	10.4			11.5						9.8	68.3	8.1	816
TOTALS		8.1	.0		12.4	.0	.0	.0		.1	12.6	66.7	8.2	6487

USAFETAC FORM 0-9.5 (OLI) JUL 64 PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SKY COVER

176390 PHELPS-COLLINS/ALPENA MI

73-81

ALL

STATION

STATION NAME

PERIOD

MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

MONTH	HOURS (LST)	PERCENTAGE FREQUENCY OF TENTHS OF TOTAL SKY COVER										MEAN TENTHS OF SKY COVER	TOTAL NO. OF OBS	
		0	1	2	3	4	5	6	7	8	9			10
JAN	ALL	11.0			14.5	.1	.1	.1		.1	15.0	59.1	7.7	6535
FEB		14.8	.1		14.8			.1		.1	15.7	54.4	7.3	5964
MAR		17.8			14.6		.1			.1	13.3	54.2	7.1	6546
APR		23.3	.1		14.9	.1	.1			.1	14.1	47.4	6.5	6336
MAY		22.5	.2		21.6			.1		.1	18.0	37.4	6.0	6530
JUN		19.7			26.1		.1			.2	20.3	33.5	6.0	6330
JUL		25.0	.1		27.6		.1			.4	18.7	28.1	5.4	6486
AUG		24.2			24.9	.1	.1			.2	18.8	31.8	5.6	6406
SEP		21.2	.1		20.7	.1		.1		.2	17.1	40.7	6.3	6278
OCT		17.2			11.3	.1		.1		.1	16.1	50.1	7.0	6467
NOV		15.5			11.1			.1		.1	13.0	62.2	7.7	6265
DEC		8.1			12.4					.1	12.6	66.7	8.2	6487
TOTALS		18.2	.1		18.3	.0	.1	.1		.2	16.1	47.1	6.7	76632

U S AIR FORCE
ENVIRONMENTAL TECHNICAL
APPLICATIONS CENTER

PART E

PSYCHROMETRIC SUMMARIES

In this section are presented various summaries of dry- and wet-bulb temperatures, dew points, and relative humidity. The order and manner of presentations follows:

1. Cumulative percentage frequency of occurrence - derived from daily observations and presented by month and annual for all years combined. These tabulations provide the cumulative percentage frequency to depths of temperature by 5-degree Fahrenheit increments, plus mean temperature, standard deviations, and total number of observations in three separate tables as follows:
 - a. Daily maximum temperatures
 - b. Daily minimum temperatures
 - c. Daily mean temperatures

NOTE: Beginning in January 1964, daily maximum and minimum temperatures are routinely selected from hourly observations recorded on surface observing forms or from automated data collections for all Air Force operated stations. For those stations observing less than 24 hours per day, and where maximum and minimum temperatures are required but not recorded, these are also selected from hourly data from as early as January 1949 and later. Please refer to notations on summary pages and Station History for further information on reporting practices of individual stations.

2. Extreme values - derived from daily observations with the extreme value selected for each year and month of record available. An annual (ALL MONTHS) value is selected when all months for a year have valid extremes. Means and standard deviations are computed for months and annual when four or more values are present for any column. Two tables of daily extremes are prepared:
 - a. Extreme maximum temperature
 - b. Extreme minimum temperature

NOTE: The following symbols are used in the extreme data blocks:

- (1) * indicates the extreme was selected from a month with one or more days missing.
- (2) # indicates the extreme was selected from a month in which hourly temperatures were available for less than 24 hours for at least one day in the month.

Values for means and standard deviations do not include measurements for incomplete months.

Continued on Reverse

3. Bivariate percentage frequency distribution and computations of dry-bulb versus wet-bulb temperature. This tabulation is derived from hourly observations and is presented by month and annual, all hours and years combined. The following information is provided:

- a. The main body of the summary consists of a bivariate percentage frequency distribution of wet-bulb depression in 17 classes spread horizontally; by 2-degree intervals of dry-bulb temperature spread vertically. Also provided for each of the dry-bulb intervals is the percentage of observations with dry-bulb and wet-bulb temperature combined; and again for dry-bulb, wet-bulb, and dew-point temperatures separately. Total observations for these four items is also provided in two lines at end of each tabulation table, which may be continued on several pages.

NOTE: A percentage frequency in this table of ".0" represents one or more occurrences amounting to less than .05 percent.

- b. Statistical data for the individual elements of relative humidity, dry-bulb, wet-bulb, and dew-point temperatures are shown in the section at the bottom left of the forms. These consist of the sum of squares ($\sum X^2$), sums of values ($\sum X$), means (\bar{X}), and standard deviations (σ_x). The number of observations used in the computation for each element is also shown.
- c. At the lower right of the form are given the mean number of hours of occurrence for six ranges of dry-bulb, wet-bulb, and dew-point temperatures, and total number of hours possible in the period represented. Mean number of hours is shown to tenths and indicates mean number of hours per year in the annual summary, or mean number of hours per month in the tabulation by month.

NOTE: Wet-bulb temperature usually was not reported prior to 1946. Relative humidity usually was not reported prior to 1949, nor subsequent to June 1958; and was computed by machine methods for observations recorded during these periods. All values of dew-point temperature and relative humidity are with respect to water, unless otherwise indicated.

4. Means and standard deviations - These tabulations are derived from hourly observations and present the mean, standard deviation, and total number of observations for the eight standard 3-hour groups, by month and annual and again at the bottom for all hours combined. Records for all years combined are presented in the following three tables; DRY-BULB TEMPERATURE, WET-BULB TEMPERATURE, and DEW-POINT TEMPERATURE.
5. Cumulative percentage frequency of occurrence of relative humidity - This summary is derived from hourly observations and presents the cumulative percentage frequency of occurrence of relative humidity by increments of 10% classes, plus the mean relative humidity and total number of observations in two tables.
 - a. Table 1 is prepared by month and annual, all years combined, with month being the vertical argument.
 - b. Table 2 is prepared by month by standard 3-hour groups, with the hour groups being the vertical argument and a separate page for each month. All years are also combined for this summary.

GLOBAL CLIMATOLOGY BRANCH
 USARPAC
 AIR WEATHER SERVICE/MAC
 1.059 PHILIPS-COLLINS/ALPENA MI
 STATION

DAILY TEMPERATURES

15-81

YEARS

CUMULATIVE PERCENTAGE FREQUENCY OF OCCURRENCE
 (FROM DAILY OBSERVATIONS)

MAXIMUM

TEMP (°F)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
95							2.2						.2
90					1.1	4.8	8.6	4.7	.7				1.7
85				1.1	7.2	15.6	26.9	14.7	4.8				5.9
80				2.6	14.3	32.4	49.8	39.8	11.9	1.1			12.7
75				5.6	22.9	49.6	72.1	63.8	21.5	3.6	.4		20.5
70			.4	7.8	35.5	68.9	91.8	84.6	34.4	9.3	1.5		28.0
65			2.2	15.6	49.1	84.1	97.8	97.1	58.5	19.4	3.7		35.8
60			5.0	23.1	68.8	94.4	99.3	98.9	80.4	32.6	9.3	.4	43.0
55		1.2	8.6	38.5	84.3	98.1	100.0	100.0	94.1	47.0	15.9		48.9
50	1.1	2.4	14.7	50.7	92.1	100.0			98.5	68.8	29.6	1.4	55.2
45	3.6	5.5	26.9	66.7	96.8				100.0	86.7	37.8	3.2	60.8
40	6.8	11.8	44.1	80.0	98.9					95.0	58.1	9.7	67.3
35	15.4	22.4	60.9	94.1	100.0					99.6	77.4	32.3	75.4
30	31.7	42.5	83.2	98.7						100.0	93.7	58.8	84.4
25	53.0	62.6	93.2	100.0							97.0	75.6	90.2
20	73.1	79.1	99.3								98.9	90.0	95.1
15	86.7	87.0									100.0	96.1	97.5
10	91.1	94.5	99.6									99.6	99.3
5	98.9	99.6	100.0									100.0	99.7
0	100.0	100.0											100.0
MEAN	25.4	27.3	38.9	51.2	65.3	74.1	79.7	77.1	67.1	55.1	43.2	30.3	52.9
S.D.	7.454	6.648	10.573	12.443	11.759	9.278	7.427	7.181	9.104	9.957	11.067	8.297	21.396
TOTAL OBS.	217	254	219	210	219	210	219	219	210	219	210	219	3267

73-81

YEARS

MINIMUM

ALPENA CLIMATOLOGY BRANCH
ALPENA
ALPENA WEATHER SERVICE/MAC
100390 MHELPS-COLLINS/ALPENA MI
STATION STATION NAME

CUMULATIVE PERCENT
(FROM

USAFETAC FORM 0-21-5 (OL 1) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

(2)

MAXIMUM TEMPERATURE

(FROM DAILY OBSERVATIONS)

73-81

YEARS

WHOLE DEGREES FAHRENHEIT

NOTES * (BASED ON LESS THAN FULL MONTHS)

FORM
JUL 64

0-88-5 (OL A)

(AT LEAST ONE DAY LESS THAN 24 OBS)

(FROM DAILY OBSERVATIONS)

126390 PHELPS-COLLINS/ALPENA MI
STATION STATION NAME

75-81

YEARS

WHOLE DEGREES FAHRENHEIT

[illegible]

NOTES * (BASED ON LESS THAN FULL MONTHS)

USAF ETAC

FORM
JUL 64

0-88-5 (OL A)

(AT LEAST ONE DAY LESS THAN 24 OBS)

PSYCHROMETRIC SUMMARY

YEARS

PAGE 1

0000-0400

HOURS (L. S. T.)

[illegible]

PSYCHROMETRIC SUMMARY

YEARS

JAN
MONTH

PAGE 2 0000-3200
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																		TOTAL		TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	D.B./W.B.	Dry Bulb	Wet Bulb	Dew Point		
7-21																					2		
TOTAL	51.3	62.1	6.6																808	813	808		

USAFETAC
FORM
JUL 64
0-26-5 (OL A)
REVISED PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

PSYCHROMETRIC SUMMARY

YEARS

JAN
MONTH

PAGE 1 0300-0500
HOURS (L. S. T.)

0300-050
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																				TOTAL D.B./W.B.	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	Dry Bulb	Wet Bulb	Dew Point				
40 / 45		.2	.1															5	5					
44 / 43		.6	.1															6	6	5				
42 / 41	.2	.4	.6															10	10	7				
40 / 39	.2	.2	.2															6	6	5				
38 / 37	.1	.1	.2															4	4	9				
36 / 35	.1	.4	.2															10	10	5				
34 / 33	.9	2.0	.2															25	25	21				
32 / 31	1.1	2.9	.2															34	34	24				
30 / 29	.9	4.0	.2															41	41	38				
28 / 27	.9	2.2	.4															28	28	36				
26 / 25	1.0	4.6	.7															51	51	35				
24 / 23	.5	3.0	.4															31	31	46				
22 / 21	2.6	3.5	.6															54	54	59				
20 / 19	2.7	4.9	.2															63	63	48				
18 / 17	1.4	3.9																42	42	47				
16 / 15	1.2	3.1																40	40	48				
14 / 13	1.9	4.6	.4															55	55	41				
12 / 11	1.5	3.2	.1															39	39	50				
10 / 9	2.9	3.0																47	47	49				
8 / 7	1.9	3.2	.1															42	42	44				
6 / 5	1.2	2.4																29	29	38				
4 / 3	1.6	1.2																23	23	25				
2 / 1	1.2	2.4																29	29	26				
0 / -1	1.1	.2																11	12	19				
-2 / -3	1.4	.2																13	13	14				
-4 / -5	1.4																	11	11	12				
-6 / -7	2.1																	17	17	17				
-8 / -9	2.2																	18	18	18				
-10 / -11	.6																	5	5	5				
-12 / -13	.4																	3	3	3				
-14 / -15	.4																	3	3	3				
-16 / -17	.7																	6	6	6				
-18 / -19	.4																	3	3	3				
-20 / -21																				3				
Element (X)	Σ X'	Σ X	Σ	σ _X	No. Obs.	Mean No. of Hours with Temperature															</			

PSYCHROMETRIC SUMMARY

73-81

YEARS

10M NORTH

PAGE 2 0300-0500
HOURS (L. S. T.)

[illegible]

PSYCHROMETRIC SUMMARY

YEARS

PAGE 1 JAN MONTH 0600-0800 HOURS (L. S. T.)

[illegible]

USAFETAC FORM 0-26-5 (OLA) REVISED PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

PSYCHROMETRIC SUMMARY

73-81

YEARS

JAN
MONTH

PAGE 2

0600-0800
HOURS (L. S. T.)

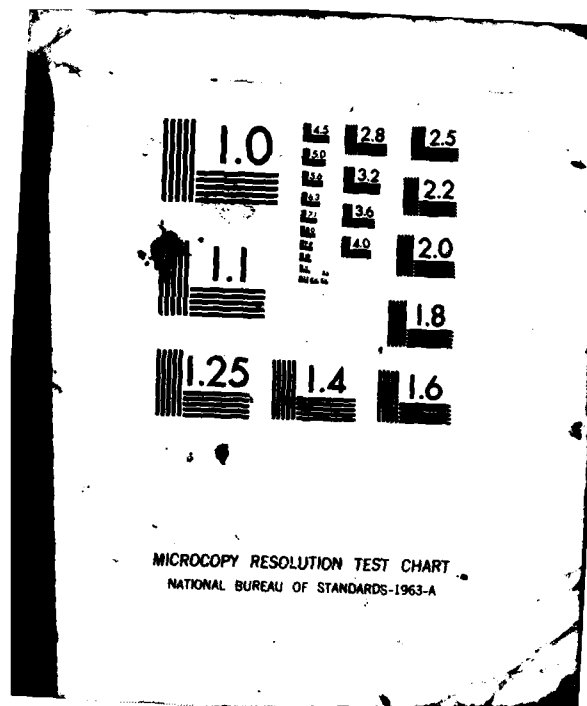
Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																														TOTAL		TOTAL		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	> 31	D.B./W.B. Dry Bulb	Wet Bulb	Dew Point
21-23																															815	821	815	1	
41.053.5.5.5																																			

Element (X)	Z _X ²	Z _X	X̄	s _x	No. Obs.	Mean No. of Hours with Temperature						Total
						= 0 F	= 32 F	= 67 F	= 73 F	= 80 F	= 93 F	
Rel. Hum.	5360126	65412	80.311.633		815							93
Dry Bulb	327033	12679	15.412.650		821	12.0	86.1					93
Wet Bulb	271166	11918	14.612.511		815	13.0	88.2					93
Dew Point	240043	8413	10.313.719		815	22.5	89.8					93

AD-A116 099 AIR FORCE ENVIRONMENTAL TECHNICAL APPLICATIONS CENTER--ETC F/G 4/2
PHELPS-COLLINS, ALPENA, MICHIGAN. REVISED UNIFORM SUMMARY OF SU--ETC (11)
MAY 82
UNCLASSIFIED USAFETAC/DS-82/031 SBI-AD-F850 176 NI

4 5

NI



PSYCHROMETRIC SUMMARY

73-81

YEARS

MENTAL

PAGE 2 0900-1100
HOURS (L. S. T.)

[illegible]

PSYCHROMETRIC SUMMARY

YEARS

PAGE 1 1200-1400

HOURS (L. S. Y.)

[illegible]

PSYCHROMETRIC SUMMARY

726390 PHELPS-COLLINS/ALPENA MI
STATION STATION NAME

73-11

YEARS

J.A.P.
MONTH

PAGE 2 ~~1200-1A00~~

[illegible]

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PSYCHROMETRIC SUMMARY

126390 PHELPS-COLLINS/ALPENA MI

73-81

JAN

STATION

STATION NAME

YEARS

MONTH

PAGE 1 1500-1700

HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																	TOTAL	TOTAL					
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	>31	D.B./W.B.	Dry Bulb	Wet Bulb	Dew Point			
52/ 51			.1			.1												2	2					
50/ 49			.1		.1	.1												3	3					
48/ 47			.1		.2													3	3	1				
46/ 45			.4	.1	.1													5	5	2				
44/ 43				.5														4	4	1				
42/ 41					.5													4	4	6	3			
40/ 39			.6	.6	.1													11	11	2	2			
38/ 37	.2	.5	.6	.2														13	13	8	3			
36/ 35	.2	1.1	1.7															25	25	15	3			
34/ 33	.1	2.1	1.6	.9														38	38	22	5			
32/ 31	.5	4.7	3.0	1.2	.1													77	78	49	17			
30/ 29	.1	2.5	1.8	.5														44	44	52	32			
28/ 27	1.4	2.3	1.8	.1														43	43	54	37			
26/ 25	1.1	4.4	2.8															68	68	62	51			
24/ 23	.5	2.6	2.0															41	41	56	31			
22/ 21	.5	3.7	1.8	.1														50	50	56	36			
20/ 19	1.1	6.4	2.8	.1														85	85	55	45			
18/ 17	.4	3.0	3.0															56	56	68	58			
16/ 15	.9	4.7	3.0															69	69	65	40			
14/ 13	.4	4.6	1.8															55	56	60	61			
12/ 11	.5	2.2	1.6															35	35	51	48			
10/ 9	.2	2.6	1.2															33	33	39	61			
8/ 7	.5	1.6																17	17	35	37			
6/ 5		.6																5	5	16	23			
4/ 3	.2	.7																8	8	9	48			
2/ 1	.2	1.4																13	13	11	36			
0/ -1	.4	.1																4	4	7	28			
-2/ -3	.1																	1	1	2	24			
-4/ -5																					23			
-6/ -7																					24			
-8/ -9																					14			
-10/-11																					14			
-12/-13																					8			
Element (X)	Σ _Σ ¹		Σ _Σ		Σ		Σ ₀		No. Obs.		Mean No. of Hours with Temperature													
Rel. Hum.											≤ 0 F		≤ 32 F		≤ 67 F		≤ 93 F		≤ 80 F		≤ 93 F		Total	
Dry Bulb																								
Wet Bulb																								
Dew Point																								

FORM 0-26-5 (OL A) STATION WEATHER SERVICE OF THE AIR FORCE

USAFETAC

PSYCHROMETRIC SUMMARY

73-41

Y483

1 JAN
MONTH

PAGE 2 ~~1500-1700~~
100-100000 (L. T. T.)

[illegible]

PSYCHROMETRIC SUMMARY

73-81

JAN
MONTH

PAGE 1

1800-2000
1800-2000

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																										TOTAL D.B./W.B.	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31	Dry Bulb	Wet Bulb	Dew Point										
48/ 47		.2	.1		.1													4	4											
46/ 45				.1														1	1	3										
44/ 43		.4		.5														7	7	1										
42/ 41		.2																2	2	4										
40/ 39		.2	.1															3	3	2										
38/ 37	.4	.2	.1	.1														7	7	5										
36/ 35		.6	.9															12	12	3										
34/ 33	.4	1.0	1.3															29	29	13										
32/ 31	.5	4.0	1.8															50	50	31										
30/ 29	1.2	3.9	1.1															51	52	21										
28/ 27	.9	4.0	1.5	.2														54	54	34										
26/ 25	1.3	3.9	1.2															53	53	48										
24/ 23	.6	2.3	.6															29	29	55										
22/ 21	1.0	4.1	.2															48	48	40										
20/ 19	2.0	1.4	.4															76	77	60										
18/ 17	.6	5.9	.5															57	57	65										
16/ 15	.1	5.3	1.2															54	54	54										
14/ 13	1.2	4.9	.4															53	53	47										
12/ 11	1.0	3.7	.7															44	44	55										
10/ 9	1.0	4.5	.6															50	50	49										
8/ 7	1.1	3.9																41	41	90										
6/ 5	.7	2.1																23	23	37										
4/ 3	.5	1.7																18	18	24										
2/ 1	.2	2.2																20	20	20										
0/ -1	1.6	.1																14	14	20										
-2/ -3	.4																	3	3	4										
-4/ -5	.9																	7	7	7										
-6/ -7	.4																	3	3	3										
-8/ -9	.1																	1	1	1										
-10/ -11	.2																	2	2	2										
-12/ -13																														
-14/ -15																														
4-11-1922	10.3	66.0	12.6	1.0	.1													816	816	816										
Element (X)	Z ₁	Z ₂	Z ₃	Z ₄	No. Obs.	Mean No. of Hours with Temperature																								
Rel.																														

PSYCHROMETRIC SUMMARY

73-81

JAN
MONTH

PAGE 2 2100-2300
HOURS (L. S. T.)

[illegible]

PSYCHROMETRIC SUMMARY

73-A1

YEARS

JAN
MONTH

PAGE 1

HOURS (L. S. Y.)

[illegible]

PSYCHROMETRIC SUMMARY

YEARS

JAN
MONTH

ALL
HOURS (L. S.

22

(

YEARS

PAGE 2 0000-0200
HOURS (L. S. T.)

USAFETAC FORM 0-26-5 (OL A) REVISED PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PSYCHROMETRIC SUMMARY

126390
STATION

PHILIPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

YEARS

FEB
MONTH

PAGE 1 0300-0500
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																				TOTAL D.B./W.B.	TOTAL																						
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31	Dry Bulb	Wet Bulb	Dew Point																								
42/ 41	.1	.1																		2	2	1	1																					
41/ 39	.7	.8	.1	.1																13	13	7	4																					
39/ 37		.5	.1	.3																7	7	8	4																					
37/ 35	.5	.3	1.1																	14	14	6	7																					
35/ 33	1.5	.9	.5																	22	23	20	11																					
33/ 31	1.3	2.7	1.1																	38	38	30	17																					
31/ 29	2.2	1.7	.8																	35	35	37	25																					
29/ 27	2.4	4.4	.4	.1																55	55	42	29																					
27/ 25	1.1	2.7	.5																	30	30	44	36																					
25/ 23	.3	3.2	.4																	29	29	28	27																					
23/ 21	.3	1.7	.4																	18	18	26	27																					
21/ 19	2.2	4.3	.3																	50	50	37	26																					
19/ 17	1.7	3.5	.1																	40	41	52	39																					
17/ 15	2.6	2.8																		40	41	38	29																					
15/ 13	1.3	3.9																		39	39	34	58																					
13/ 11	2.6	3.5																		42	42	45	36																					
11/ 9	1.2	3.5																		35	35	38	34																					
9/ 7	1.6	3.5																		38	38	36	32																					
7/ 5	.8	2.7																		26	26	33	32																					
5/ 3	2.0	2.3																		32	32	37	25																					
3/ 1	1.1	2.6																		32	32	34	40																					
1/ -1	2.6	.9																		18	18	20	25																					
-1/ -3	2.2	.3																		18	18	20	26																					
-3/ -5	1.6	.1																		13	13	12	28																					
-5/ -7	1.6																			12	12	13	26																					
-7/ -9	.7																			5	5	5	12																					
-9/ -11	1.3																			10	10	10	15																					
-11/ -13	1.5																			11	11	11	14																					
-13/ -15	.7																			5	5	5	16																					
-15/ -17	.7																			5	5	5	11																					
-17/ -19	.1																			1	1	1	6																					
-19/ -21	.3																			2	2	2	6																					
-21/ -23	.1																			1	1	1	8																					
-23/ -25	.1																			1	1	1	4																					
Element (X)	Σ X'		Σ X		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ																					
Rel. Hum.																																												
Dry Bulb																																												
Wet Bulb																																												
Dew Point																																												
																					Mean No. of Hours with Temperature																							
																					≤ 0 F	≤ 32 F	≥ 67 F	≥ 73 F																				
																					≥ 80 F	≥ 93 F	Total																					

FORM 0-26-5 (OL A) REVISED PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE
USAFETAC

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YEARS

FEB
MONTH

(

6

USAFETAC

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PSYCHROMETRIC SUMMARY

120390
STATION

PHILIPS-COLLINS/ALPENA MI
STATION NAME

15-61
YEARS

YEARS

FEB
MONTH

PAGE 1

0600-0800
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																					TOTAL	TOTAL																								
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	D.B./W.B.	Dry Bulb	Wet Bulb	Dew Point	TOTAL	Dry Bulb	Wet Bulb	Dew Point																						
42/ 41	.1	.3																				3	3	2	1																						
41/ 39	.7	.7	.3																			12	12	6	7																						
39/ 37		.1	.3	.3																		5	5	7	1																						
38/ 35	.1		.9																			8	9	2	5																						
34/ 33	.8	1.1	.4																			17	17	14	7																						
32/ 31	1.7	3.3	1.1	.1																		47	47	35	20																						
31/ 29	1.3	2.3	.5																			31	31	36	22																						
28/ 27	2.6	3.7	.7	.4																		58	58	40	28																						
27/ 25	1.3	2.7	.1																			31	31	49	42																						
24/ 23	.8	2.9																				28	28	38	21																						
22/ 21	.5	3.6	.3																			55	55	26	32																						
20/ 19	2.6	2.8																				39	39	44	37																						
18/ 17	2.0	2.8																				36	36	39	38																						
16/ 15	2.5	3.6																				46	46	40	42																						
14/ 13	2.5	1.2																				28	29	37	40																						
12/ 11	2.5	2.9	.1																			42	42	37	44																						
10/ 9	1.9	3.6	.1																			42	42	45	55																						
8/ 7	1.1	4.0																				38	38	31	29																						
6/ 5	2.1	2.3																				33	33	49	22																						
4/ 3	2.3	1.5																				28	28	30	33																						
2/ 1	1.7	1.9																				27	27	27	42																						
1/ -1	1.9	.5																				16	16	16	32																						
-1/ -3	1.6	.1																				13	13	15	23																						
-4/ -5	2.3	.1																				16	19	18	16																						
-6/ -7	1.7																					13	13	13	26																						
-8/ -9	1.5																					11	11	11	15																						
-10/ -11	.8																					6	6	6	12																						
-12/ -13	1.5																					10	10	10	11																						
-14/ -15	.9																					5	5	5	14																						
-16/ -17	.9																					7	7	7	15																						
-18/ -19	1.5																					11	11	11	12																						
-20/ -21																									6																						
-22/ -23	.1																					1	1	1	4																						
-24/ -25																									5																						
Element (X)	Σ X ²		Σ X		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ																						
Rel. Hum.																																															
Dry Bulb																																															
Wet Bulb																																															
Dew Point																																															
Mean No. of Hours with Temperature																																															
																					≤ 6 F	≤ 32 F	≤ 67 F	≤ 73 F	≤ 80 F	≤ 93 F	Total																				

FORM 0-26-5 (OL A) REVISED PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

USAFETAC

PSYCHROMETRIC SUMMARY

73-81

YEARS

FEB
MONTH

PAGE 2

0600-0800
HOURS (L. S. T.)

[illegible]

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PSYCHROMETRIC SUMMARY

160390 PHILIPS-COLLINS/ALPENA MI

73-81

YEARS

FEB

MONTH

PAGE 1 0900-1100
HOURS (L. S. Y.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																				TOTAL	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	D.B./W.B.	Dry Bulb	Wet Bulb	Dew Point			
50/ 49					.1													1	1					
48/ 47				.3														2	2					
46/ 45					.3													2	2					
44/ 43			.3															2	2	1				
42/ 41	.1	.3	.3	.1														6	6	4	2			
40/ 39	.4	.3	.5	.1														10	10	7	6			
38/ 37		.5	.3	.3	.3													10	10	10	1			
36/ 35	1.1	1.6	.5	.1														25	25	20	18			
34/ 33	1.5	1.6	.7															28	28	24	27			
32/ 31	1.9	2.1	1.5	.5														43	43	30	29			
30/ 29	1.7	3.3	1.1	.3														48	48	41	15			
28/ 27	1.1	3.3	1.3															43	43	48	26			
26/ 25	.8	3.3	1.3															41	41	38	36			
24/ 23	.3	3.1	.9															32	32	39	25			
22/ 21	1.2	4.1	.8															46	46	50	26			
20/ 19	2.3	3.1	.5															61	62	56	44			
18/ 17	1.7	3.3	.5															42	42	45	38			
16/ 15	1.3	4.4	.5															47	49	44	55			
14/ 13	1.7	3.2	.3															39	39	44	45			
12/ 11	1.2	3.9	.7															43	43	38	47			
10/ 9	.8	3.9	.1															36	36	40	37			
8/ 7	1.1	3.6	...															35	35	44	22			
6/ 5	.9	2.4																25	25	34	23			
4/ 3	.7	1.3																15	15	19	41			
2/ 1	1.1	1.3																18	18	18	34			
0/ -1	1.5	.1																12	12	15	35			
-2/ -3	.7	.3																7	7	7	23			
-4/ -5	1.1	.1																9	9	10	23			
-6/ -7	1.1																	8	8	8	18			
-8/ -9	.3																	2	2	2	10			
-10/ -11	.1																	1	1	1	9			
-12/ -13	.5																	4	4	4	5			
-14/ -15																					5			
-16/ -17	.8																	3	3	3	11			
Element (R)	Σ _g		Σ _h		Σ		Σ _n		No. Obs.		Mean No. of Hours with Temperature										Total			
Rel. Hum.											≤ 6 F	≤ 32 F	≤ 67 F	≤ 72 F	≤ 80 F	≤ 90 F	Total							
Dry Bulb																								
Wet Bulb																								
Dew Point																								

USAFETAC FORM 16-65 0-26-5 (OL A) REVISED PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

PSYCHROMETRIC SUMMARY

FEB
1971[illegible]

PSYCHROMETRIC SUMMARY

23-11

YEARS

FEB
MONTH

PAGE 1 1200-1400
HOURS (L. S. T.)

[illegible]

PSYCHROMETRIC SUMMARY

FEA
MONTH

PAGE 2 1200-1400
HOURS (L. S. T.)

[illegible]

PSYCHROMETRIC SUMMARY

126390
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81

YEARS

FEE

PAGE 2 1500-1/00
NAMES (L. S. T.)

[illegible]

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PSYCHROMETRIC SUMMARY

126490 PHELPS-COLLINS/ALPENA MI

73-81

YEARS

FEB
MONTH

PAGE 1 1800-2000
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																																	TOTAL D.B./W.B.	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31	Dry Bulb	Wet Bulb	Dew Point																	
47/ 47				.1																													1	1			
46/ 45			.4	.1	.1																												5	5			
44/ 43			.1	.3		.3																											5	5	3	2	
42/ 41			.3	.4	.4																												8	8	4	2	
40/ 39		.3	.7	.5	.3		.1																										14	14	9	3	
38/ 37		.1	.6		1.6																												19	19	9	2	
36/ 35			1.6	.4	.3	.1																											18	18	17	10	
34/ 33	1.0	3.0	.8																														35	35	27	23	
32/ 31	1.1	3.9	2.3																														54	54	39	26	
30/ 29	1.5	1.9	2.7																														45	45	47	26	
28/ 27	.8	3.1	2.2	.3																													47	47	45	25	
26/ 25	.1	3.1	2.6	.3																													49	49	47	28	
24/ 23	.1	2.6	1.4	.1																													31	32	41	23	
22/ 21	1.1	4.2	1.8																														52	53	52	38	
20/ 19	.5	6.1	1.9																														63	63	45	53	
18/ 17	.8	3.4	.8																														37	38	65	30	
16/ 15	.7	4.1	2.2																														51	52	42	42	
14/ 13	1.0	3.1	1.1																														38	38	47	54	
12/ 11	.5	2.7	.5																														48	48	34	44	
10/ 9	.4	3.8	.3																														33	33	33	39	
8/ 7		2.4	.3																														20	20	31	43	
6/ 5	.3	2.4																															20	20	24	12	
4/ 3	.1	2.2																															17	17	21	32	
2/ 1	.1	2.2																															17	17	19	30	
0/ -1	1.0	.5																															11	11	13	23	
-2/ -3	.4																																3	3	7	22	
-4/ -5	.4	.4																															6	6	5	23	
-6/ -7	.5	.1																															5	5	6	16	
-8/ -9	.4																																3	3	3	13	
-10/ -11																																				17	
-12/ -13																																				14	
-14/ -15	.1																																1	1	1	10	
-16/ -17																																				8	
-18/ -19																																				1	
Element (X)	Σ H ¹			Σ H ₂			Σ	Σ	Σ	No. Obs.			Mean No. of Hours with Temperature										Total														
Rel. Hum.													≤ 0 F	≤ 32 F	≤ 47 F	≤ 73 F	≥ 80 F	≥ 93 F																			
Dry Bulb																																					
Wet Bulb																																					
Dew Point																																					

FORM 0-26-5 (OL A) REVISED PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

USAFETAC

PSYCHROMETRIC SUMMARY

126390
STATION

PHelps-COLLINS/ALPENA MI
STATION NAME

73-41

YEARS

FEB
MONTH

PAGE 2

1800-2000
HOURS (L. S. T.)

[illegible]

PSYCHROMETRIC SUMMARY

YEARS

FEB
MONTH

PAGE 1 2100-2300
HOURS (L. S. T.)

[illegible]

PSYCHROMETRIC SUMMARY

<u>726390</u>	<u>PHELPS-COLLINS/ALPENA MI</u>
STATION	STATION NAME

73-81

YEARS

FEB
MONTH

PAGE 2 2100-2300
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																												TOTAL	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	D.B./W.B.	Dry Bulb	Wet Bulb	Dew Point											
21-23																						3										
24-25	.1																	1	1	1	2											
26-31																					1											
TOTAL	28.6	58.1	12.1	1.2															744	745	744											
																					</											

PSYCHROMETRIC SUMMARY

73-81

YEARS

FEB
MONTH

PAGE 1

ALL
HOURS (L. S. T.)

[illegible]

PSYCHROMETRIC SUMMARY

<u>1639U</u>	<u>PHELPS-COLLINS/ALPENA MI</u>
STATION	STATION NAME

73-81

YEARS

FEB
MONTH

PAGE 2

ALL

HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																												TOTAL D.B./W.B.	TOTAL				
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31	Dry Bulb	Wet Bulb	Dew Point														
-11/-11	.5																													32	32	32	102	
-11/-13	.6																													33	33	33	82	
-14/-15	.3																													15	15	15	92	
-16/-17	.3																													16	16	16	68	
-17/-19	.5																													18	18	18	34	
-20/-21	.1																													4	4	4	21	
-21/-23	.1																													4	4	4	28	
-24/-25	.1																													4	4	4	11	
-27/-27	.0																													2	2	2	4	
-28/-29	.0																													2	2	2	9	
-30/-31	.0																													2	2	2	2	
-32/-33	.1																													6	6	6	2	
-34/-35	.0																													1	1	1	1	
-36/-37																																	6	
-38/-39																																	4	
-40/-41																																	1	
TOTAL	20.15	20.5	16.9	3.4	.6	.3	.1																								5947	5968	5947	5947

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PSYCHROMETRIC SUMMARY

126390 PHELPS-COLLINS/ALPENA MI

73-81

YEARS

MAR
MONTH

PAGE 1 0000-0200
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																												TOTAL D.B./W.B.	TOTAL			
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31	Dry Bulb	Wet Bulb	Dew Point													
12/ 01				.2		.2												4		4													
11/ 51			.1		.1													2		2													
51/ 55			.1															1		1											3		
54/ 53																																	2
12/ 51		.1				.1				.1								2		2										4		1	
51/ 44	.1	.2	.5		.1													8		8									2		2		
41/ 41		.2	.2		.1													5		5									3		3		
41/ 43	.4	.2	.1															6		6									10		5		
44/ 43	.5	.2	.5	.4														13		13									8		8		
42/ 41	.1	1.7	.5	.7	.1													26		26									10		10		
41/ 39	1.5	1.5	.9															31		31									34		19		
31/ 37	.9	1.6	.6	.5														29		29									28		18		
31/ 35	1.0	2.0	.6	.2														43		43									36		28		
34/ 33	2.5	5.5	1.1															68		68									55		30		
12/ 31	2.4	8.5	1.0	.4														108		109									70		70		
51/ 29	2.3	4.6	1.7	.7														77		77									95		62		
21/ 27	1.5	5.0	2.2	.2														73		73									67		66		
11/ 25	1.5	2.4	.9	.1														40		40									73		57		
11/ 23	.6	1.0	.6															25		25									40		40		
11/ 21	1.0	2.4																39		39									45		36		
11/ 19	2.2	4.2	.5	.2														58		58									38		69		
11/ 17	1.0	2.4	.2															30		30									50		45		
11/ 15	.6	2.8	.2															30		30									25		27		
14/ 13	.6	1.7																19		19									30		31		
11/ 11	.4	1.6																20		20									20		39		
11/ 9	.5	1.7																18		18									18		34		
11/ 7	.7	1.5																18		18									22		17		
11/ 5		.9																7		7									14		17		
4/ 3	.4	.4																6		6									4		24		
11/ 1	.2	.4																5		5									5		20		
11/ -1	.4																	3		3									5		11		
11/ -3		.5																4		4									1		11		
4/ -5	.1																	1		1									4		4		
6/ -7																																1	
Element (X)	$\Sigma X'$					ΣX					Σ					σ_x					No. Obs.					Mean No. of Hours with Temperature						Total	
Rel. Hum.																										$\leq 0 F$	$\leq 32 F$	$\leq 67 F$	$\leq 73 F$	$\leq 80 F$	$\leq 93 F$		
Dry Bulb																																	
Wet Bulb																																	
Dew Point																																	

FORM 44 0-26-5 (OL A) REVISION PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE
USAFETAC

PSYCHROMETRIC SUMMARY

73-81

YEARS

MAN
MONTH

PAGE 2 0000-0200
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																												TOTAL		TOTAL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	= 31	D.B./W.B.	Dry Bulb	Wet Bulb	Dew Point																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PSYCHROMETRIC SUMMARY

160340 PHILIPS-CULLINS/ALPENA MI

73-61

MAH

STATION

STATION NAME

YEARS

MONTH

PAGE 1

UJUU-0500

HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (P)																					TOTAL	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31	D.B./W.B.	Dry Bulb	Wet Bulb	Dew Point				
60/ 59																		3	3						
50/ 57																		1	1						
50/ 55																					1				
50/ 51																								1	
50/ 49																		3	3	3					
40/ 47																		6	6	5	3				
40/ 45																		8	8	6	4				
40/ 43																		12	12	7	8				
40/ 41																		18	18	17	15				
40/ 39																		37	37	21	11				
50/ 37																		39	39	25	22				
50/ 35																		35	35	39	19				
34/ 33																		47	47	58	44				
52/ 31																		113	113	63	52				
50/ 29																		62	62	95	62				
60/ 27																		82	82	68	70				
70/ 25																		54	56	74	59				
72/ 23																		16	16	38	42				
72/ 21																		40	40	37	54				
70/ 19																		60	60	50	62				
70/ 17																		28	28	43	34				
70/ 15																		23	23	25	39				
70/ 13																		27	27	24	32				
70/ 11																		23	23	27	38				
70/ 9																		22	22	23	32				
70/ 7																		15	15	22	20				
70/ 5																		7	7	9	15				
70/ 3																		11	11	9	25				
70/ 1																		6	6	7	15				
70/ -1																		9	9	11	8				
70/ -3																		3	3	3	7				
70/ -5																		4	4	4	13				
70/ -7																		4	4	4	6				
70/ -9																									
Element (X)	ΣX		ΣX		ΣX		ΣX		ΣX		ΣX		ΣX		ΣX		ΣX		ΣX		ΣX		ΣX		
Rel. Hum.																									
Dry Bulb																									
Wet Bulb																									
Dew Point																									

USAFETAC FORM 0-26-5 (OL A) REVISED PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

PSYCHROMETRIC SUMMARY

YEARS

MAR
NORTH

PAGE 2 0300-0500
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																					TOTAL		TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	= 31	D.S./W.B.	Dry Bulb	Wet Bulb	Dew Point					
1/-11																					4					
1/-13																					4					
14/-15																					2					
1/-17																					5					
TOTAL	51.6	55.3	12.5	2.2				.4											820		818					
																		818		818						

PSYCHROMETRIC SUMMARY

YEARS

MAR
MONT

PAGE 1 0600-0800
HOURS (L S Y)

PSYCHROMETRIC SUMMARY

72639U
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81

YEARS

PER MONTH

PAGE 2 0600-0800
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																					TOTAL	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	D.B./W.B.	Dry Bulb	Wet Bulb	Dew Point				
1/-11	.1																	1	1	1	4				
1/-13																					5				
14/-15																					4				
16/-16																					6				
TOTAL	35.85	0.51	1.9	1.6	.1													821	824	821	821				

PSYCHROMETRIC SUMMARY

1-3-61

YEARS

MAR
MONTH

PAGE 1

0900-1100
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (P)																				TOTAL D.B./W.B.	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31	Dry Bulb	Wet Bulb	Dew Point				
64/ 67						.1												1	1					
64/ 63				.1														1	1					
64/ 61						.2												2	2					
64/ 59						.1												1	1	1				
54/ 57		.1		.1	.1		.1											4	4	1				
54/ 55			.1			.1	.2											5	5	2				
54/ 53	.1	.2	.1		.1			.1										6	6	1				
52/ 51		.2	.1		.6	.1												9	9	6				
50/ 49		.5	.1	.1	.2	.2												10	10	7				
48/ 47	.1	.4	.4	.2	.2													11	11	7				
48/ 45		.5	.1	.4	.5													12	12	10				
48/ 43		.9	.6	.9	.5													23	23	14				
42/ 41	.5	1.1	.6	2.0	.4	.1												38	38	18				
41/ 39	1.1	1.8	2.0	1.2	.9	.1												54	54	31				
51/ 51	1.6	2.6	1.6	1.5	.1	.1												61	61	52				
50/ 50	1.5	2.6	2.0	1.0														57	57	68				
54/ 53	1.0	3.7	1.6	.5														52	52	59				
52/ 51	1.7	7.1	2.7	1.0	.1													103	103	67				
51/ 29	1.0	3.1	2.7	.4	.1													59	59	74				
20/ 27	1.1	1.6	3.8	.5														57	57	53				
20/ 25	.5	2.6	2.2	.5														47	47	54				
20/ 23	.2	2.1	2.1	.2														38	38	56				
20/ 21	.6	2.0	1.3	.1														40	40	49				
20/ 19	.9	2.7	1.1															34	34	31				
18/ 17	.9	1.2	.7															23	23	32				
16/ 15	.6	1.2	.6															20	20	25				
14/ 13	.5	.7	.7															16	16	21				
12/ 11		.4	.1															8	8	9				
10/ 9		1.5	.1															13	13	10				
8/ 7		.5																4	4	10				
6/ 5																				3				
4/ 3		.4																3	3	2				
2/ 1	.1	.1																2	2	3				
0/ -1	.1	.1																2	2	1				
Blanket (R)																								

PSYCHROMETRIC SUMMARY

MAR
MONTH

PAGE 2 0900-1100
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																								TOTAL D.B./W.B.	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	= 31	Dry Bulb	Wet Bulb	Dew Point								
-2/-5																				1	11							
-4/-5																					5							
-6/-7																					4							
-8/-9																					5							
-1/-13																					1							
TOTAL	13.2	43.5	21.6	10.1	3.6	1.5	.2												816		816							
																			816		816							

PSYCHROMETRIC SUMMARY

73-81

YEARS

NAME
MONTH

PAGE 1 1200-1400
HOURS (L. S. T.)

[illegible]

PSYCHROMETRIC SUMMARY

73-81

YEARS

MAR
MONTH

PAGE 2 1200-1400
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																				TOTAL D.B./W.B.	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	Dry Bulb	Wet Bulb	Dew Point				
-1																								9
-3																								6
-5																								2
-7																								2
-9																								2
-11																								2
-13																								1
-15																								1
TOTAL	0.5	20.9	36.9	16.7	10.1	5.7	1.2	.6	.1		.1										818	819	818	818

USAFETAC FORM 0-20-5 (OL A) REVISED PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

PSYCHROMETRIC SUMMARY

126390 PHELPS-COLLINS/ALPENA MI
STATION STATION NAME

73-81

YEARS

 MAR
MONTH

PAGE 1 1500-1700
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL		TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	D.B./W.B.	Dry Bulb	Wet Bulb	Dew Point															
11/ 11											.1							1	1																	
11/ 69											.1							1	1																	
61/ 67							.1											1	1																	
16/ 65				.1		.1	.1	.2										5	5																	
14/ 63					.2			.2										4	4																	
11/ 61		.1	.4	.1				.2	.4									10	10																	
11/ 59		.1		.1		.1	.2											5	5	2																
51/ 57		.1	.5		.4	.2	.4											13	13	6	2															
56/ 55			.1	.1	.1	.1												4	4	5	4															
14/ 53				.2	.2	.4	.2											9	9	5	2															
52/ 51		.4		.2	.2	.2	.1											10	10	9	6															
50/ 49			.4	.4	.1	.9	.2	.1										21	21	10	5															
40/ 47		.1	.5	.2	.1	1.2	.1	.1										25	25	15	2															
40/ 45		.5	.5	.7	1.8	.5	.2											35	35	11	2															
44/ 43	.1	.2	1.8	1.2	.9	.4												38	38	15	8															
42/ 41		.9	1.5	2.3	1.1	1.0	.1											56	56	22	7															
40/ 39	.5	1.6	2.7	1.8	.9	.4												64	64	48	25															
31/ 31	.2	1.8	1.5	1.5	1.1	.2												51	51	66	24															
31/ 30	.6	2.1	2.2	2.2	.5	.1												65	65	80	46															
34/ 33	1.6	3.2	2.5	1.1	.7													74	74	76	44															
12/ 31	.7	3.4	3.1	3.9	.9													98	98	77	66															
30/ 29	.1	1.3	2.7	1.8	.2													51	52	70	65															
20/ 27	.4	1.1	1.8	1.6	.2													42	43	53	60															
10/ 25	.5	1.1	2.8	.9	.4													46	46	74	65															
24/ 23	.2	.1	1.0	.1														12	12	47	55															
12/ 21	.4	.5	2.2	1.0														33	33	37	49															
20/ 19	.4	2.0	1.3	.5														34	34	40	44															
18/ 17	.1	.4																4	4	28	39															
11/ 15																				16	39															
14/ 13																					43															
12/ 11			.2															2	2		44															
10/ 9			.1															1	1		25															
11/ 7																																				

PSYCHROMETRIC SUMMARY

MAE
MONTH

PAGE 1 1800-2000
HOURS (L. S. T.)

PSYCHROMETRIC SUMMARY

YEARS

MAR
MONTH

PAGE 2 1800-2000
HOURS (L - S - T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL		TOTAL	
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	D.B./W.B.	Dry Bulb	Wet Bulb	Dew Point														
-1/-3																						4													
-4/-5																						5													
-1/-7																						6													
-1/-13																						3													
-1/-17																						3													
TOTAL	8.540	0.829	3.13	0.640	1.5	.7	.1	.1	.1									816	818		816														

USAFETAC FORM 0-26-5 (OL A)
REVISED PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE
E.E. 44

PSYCHROMETRIC SUMMARY

MAR
MONTH

PAGE 1 2100-2300
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																												TOTAL D.B./W.B.	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	Dry Bulb	Wet Bulb	Dew Point												
40/60				.2														2	2													
42/61				.1														1	1													
44/59					.1	.1												2	2													
46/57		.1						.1										2	2	2												
48/55			.2															2	2	2												
49/53		.6						.1										6	6	1												
50/51		.6	.1	.1														7	7	9												
52/49		.4	.1			.1												5	5	4												
54/47		.1	.2	.4	.1													7	7	1												
56/45		.4	.5		.1													8	8	1												
58/43		.5	1.1	1.0	.1													22	22	7												
60/41	.4	1.0	.2	.4	.1													17	17	14												
62/39	1.3	1.5	.7	.1														30	30	36												
64/37	.7	1.4	.9															29	29	31												
66/35	1.7	3.3	.9	.5	.1													53	53	37												
68/33	2.4	5.0	1.5	.5	.1													78	78	60												
70/31	1.7	9.5	3.0	.2	.1													120	120	84												
72/29	1.5	4.3	2.6	.5														72	72	96												
74/27	.9	6.2	2.3	.4														80	80	70												
76/25	.5	3.4	1.9	.1														49	49	71												
78/23	.2	1.9	1.1															27	27	53												
80/21	.7	2.9	.9	.1														38	38	45												
82/19	.7	3.3	1.3	.1														45	45	33												
84/17	1.1	2.3	.9															35	35	46												
86/15	.2	2.6	.4															26	26	32												
88/13	.6	1.7	.2															21	21	29												
90/11	.5	1.2	.2															16	16	21												
92/9	.2	.7																8	8	16												
94/7	.1	.2																3	3	5												
96/5	.4	.6																8	8	8												
98/3		.1																1	1	2												
100/1		.1																1	1	1												
102/-1		.2																2	2	1												
104/-3																				2												
Element (X)	$\Sigma X'$		ΣX		\bar{X}																											

PSYCHROMETRIC SUMMARY

12039U
STATION

PHILIPS-COLLINS/ALPENA MI
STATION NAME

73-41

YEARS

NAME
MONTH

PAGE 2 2100-2300
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																											TOTAL	TOTAL				
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	= 31	D.B./W.B.	Dry Bulb	Wet Bulb	Dew Point												
-4/-5																																5	
-6/-7																																3	
-8/-9																																1	
-10/-13																																1	
-14/-15																																2	
-16/-17																																2	
TOTAL	15.9	56.3	21.5	4.9	1.0	.2	.1	.1																								823	823
																																823	823
Element (X)	X ₁	X ₂	X ₃	X ₄	No. Obs.	Mean No. of Hours with Temperature																											
Nat. Hum.	5085986	65566	77.2	14.647	823	< 6 F	> 32 F	> 67 F	> 73 F	> 80 F	> 93 F	Total																					
Dry Bulb	771990	23902	29.0	9.730	823	.2	62.4					93																					
Wet Bulb	678943	22337	27.1	9.404	823	.3	69.0					93																					
Dew Point	524292	18462	22.4	1.576	823	3.3	77.1					93																					

PSYCHROMETRIC SUMMARY

73-B1

YEARS

 MAR
MONTH

PAGE 1

ALL
HOURS (L, S, T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																												TOTAL D.B./W.B.	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	Dry Bulb	Wet Bulb	Dew Point												
11/ 71									.0	.0		.0							4	4												
11/ 69												.0							1	1												
67/ 67						.0	.0	.0	.0										2	2												
66/ 65				.0	.0	.0	.0	.0		.0									9	9												
64/ 63				.1	.0	.0	.0	.0											12	12												
62/ 61		.0	.1	.1	.0	.1	.1	.1	.0	.0									27	27												
60/ 59		.0	.0	.0	.0	.1	.0	.1	.1										20	20												
58/ 57		.1	.1	.0	.1	.1	.1	.0											36	36	16	2										
56/ 55		.1	.2	.1	.1	.1	.1	.0											38	38	26	15										
54/ 53	.0	.2	.0	.1	.1	.1	.1												39	39	15	17										
52/ 51		.2	.1	.1	.2	.1	.0												49	49	49	21										
50/ 49	.0	.2	.2	.1	.3	.3	.0	.0											74	74	38	32										
48/ 47	.0	.2	.3	.2	.4	.2	.0	.0											86	86	51	21										
46/ 45	.1	.4	.3	.3	.5	.2	.1												123	124	75	34										
44/ 43	.2	.6	.4	.4	.7	.4	.1	.0											191	191	85	51										
42/ 41	.4	1.0	.7	1.0	.4	.2	.0												241	241	142	86										
40/ 39	1.0	1.5	1.6	.8	.4	.1	.0												353	353	271	150										
38/ 37	.8	2.1	1.3	1.0	.3	.1													366	367	324	164										
36/ 35	1.2	2.6	1.5	.8	.3	.0													419	420	433	213										
34/ 33	1.4	4.1	1.8	.5	.1	.0													552	552	523	328										
32/ 31	1.4	6.6	2.7	1.1	.2														810	811	614	491										
30/ 29	1.4	3.1	2.3	.9	.2														516	519	666	503										
28/ 27	1.3	3.6	2.3	.5	.1														509	510	499	522										
26/ 25	.9	2.6	1.8	.4	.1														374	376	536	496										
24/ 23	.4	1.4	1.2	.2															211	211	407	293										
22/ 21	1.1	2.0	1.0	.2															285	285	325	392										
20/ 19	1.1	3.2	1.1	.2															366	366	340	391										
18/ 17	.9	1.4	.5																186	187	317	329										
16/ 15	.4	1.5	.3																138	138	195	331										
14/ 13	.5	1.0	.2																													

PSYCHROMETRIC SUMMARY

<u>120540</u>	<u>PHELPS-COLLINS/ALPENA MI</u>
STATION	STATION NAME

73-81

YEARS

MAR
MONTH

PAGE 2

ALL
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																				TOTAL	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31	D.B./W.B.	Dry Bulb	Wet Bulb	Dew Point			
41 3	.5	.2																36	36	37	129			
41 1	.2	.2																28	28	29	126			
41 -1	.3	.1																23	23	25	73			
41 -3	.1	.1																10	10	11	74			
41 -5	.1	....																8	8	12	41		
41 -7	.2																	10	10	10	29			
41 -9	.1																	5	5	5	18			
41 -11	.0																	1	1	1	11			
41 -13																					17			
41 -15																					16			
41 -17																					19			
TOTAL	17.84	3.02	2.8	9.5	4.1	1.9	.6	.2	.0	.0	.0								6558		6547			
																		6547						

PSYCHROMETRIC SUMMARY

YEARS

APR
MONTH

PAGE 4

0000-0200
HOURS (L. S. T.)

[illegible]

PSYCHROMETRIC SUMMARY

<u>726390</u>	<u>PHELPS-COLLINS/ALPENA MI</u>
STATION	STATION NAME

73-81

YEARS

APR
MONTH

PAGE 2 0000-0200
HOURS (L. S. T.)

[illegible]

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PSYCHROMETRIC SUMMARY

126390 PHILIPS-COLLINS/ALPENA MI

75-81

APR
MONTH

PAGE 1 0300-0500
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																					TOTAL D.B./W.B.	TOTAL			
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31	Dry Bulb	Wet Bulb	Dew Point						
67/ 67				.3	.3													4	4							
66/ 65			.1	.1	.4	.3												7	7							
64/ 63		.1	.1		.1	.1												4	4							
62/ 61		.3																4	4	6	1					
57/ 57		.4	.5	.5	.1													10	10	7	5					
57/ 57		.4	.1	.1	.1	.6	.3											13	13	9	6					
56/ 55		.1	.3	.1	.1													5	5	7	5					
54/ 53		.8		.3														8	8	11	10					
52/ 51		.3			.3													4	4	3	8					
51/ 49	.4	.4	.1		.1													8	8	7	7					
47/ 47	.3	.5	.5	.4	.1													14	14	14	8					
46/ 45	.1	.8	.5	.9	.3													20	20	12	12					
44/ 43	.9	2.0	.5	.4	.5													34	34	23	13					
42/ 41		1.6	1.9	1.6	.4													44	44	18	14					
41/ 39	1.8	4.2	1.5	1.5	.3													73	73	53	31					
37/ 37	.6	2.4	1.6	.5														43	43	54	36					
37/ 35	1.6	2.2	2.0		.1													42	42	58	29					
34/ 33	2.0	6.8	1.3	.9														87	89	65	54					
32/ 31	2.4	6.8	2.5	.4														96	96	94	91					
30/ 29	1.5	4.8	3.5	.1														79	79	74	56					
26/ 27	1.0	2.8	1.3	.4														49	49	78	56					
25/ 25	.9	3.2	1.5	.5														44	44	58	73					
24/ 23	.4	2.8	1.1	.1														35	35	59	42					
22/ 21	.9	1.4	.6															23	23	40	46					
21/ 19	.5	1.6	.1															18	18	25	57					
18/ 17	.1	.6	.3															8	8	16	30					
16/ 15	.4	.4	.5															10	10	10	20					
14/ 13	.3		.1															3	3	4	33					
14/ 11																				3	16					
10/ 9																					1	14				
8/ 7																						5				
6/ 5																						3				
4/ 3																						2				
2/ 1																						2				
Element (X)	ΣX ²		ΣX		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ	
Rel. Hum.																										
Dry Bulb																										
Wet Bulb																										
Dew Point																										

USAFETAC FORM 44 0-26-5 (O.L.A.) REVERSE METHOD EDITIONS OF THIS FORM ARE OBSOLETE

PSYCHROMETRIC SUMMARY

YEARS

APR
MONTH

PAGE 2 0300-0500
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																					TOTAL	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	D.B./W.B.	Dry Bulb	Wet Bulb	Dew Point				
1/-1																					1				
-4/-5																					1				
-6/-7																					2				
TOTAL	16.2	48.4	22.6	8.4	3.2	1.0	.3												789	791	789				

USAFETAC FORM 0-26-5 (OL A) REV. 6-64
REPLACES PREVIOUS EDITIONS OF THIS FORM AND OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAL

PSYCHROMETRIC SUMMARY

726390 PHELPS-COLLINS/ALPENA MI

73-81

YEARS

APR
MONTH

PAGE 1

0600-0800
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																				TOTAL D.B./W.B.	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	> 31	Dry Bulb Wet Bulb Dew Point						
60/ 67				.1	.1	.1	.1													4	4			
60/ 65			.5	.4	.1			.1												7	7			
60/ 63			.5	.5	.1	.1														6	6			
62/ 61	.1				.3															3	3	4	1	
61/ 59		.3				.4														5	5	7	3	
58/ 57	.1	.4	.3	.3		.4														11	11	7	6	
56/ 55			.4	.3	.1	.1														7	7	6	5	
54/ 53		.6		.1	.5	.1	.1													11	11	10	7	
52/ 51		.8	.3	.5	.5	.4														15	15	9	6	
50/ 49	.3	.4	.3	.3	.1	.1														11	11	10	11	
48/ 47	.5	.9	.4	.3	.5	.4														23	23	15	13	
46/ 45	.3	1.1	.9	1.0	.3															28	28	20	10	
44/ 43	.1	2.4	1.8	.8	.5	.3														46	46	19	11	
42/ 41	.5	2.1	2.5	2.0	.5															60	60	44	23	
40/ 39	1.5	3.6	1.8	1.1	.6															67	67	50	29	
38/ 37	.3	2.9	1.3	1.0																43	43	70	45	
36/ 35	.3	2.8	2.4	1.0																51	51	56	35	
34/ 33	3.5	6.4	2.5	.5																103	103	85	67	
32/ 31	2.3	6.0	2.0	.4																85	86	96	69	
30/ 29	.8	5.6	2.6	.5																58	58	78	58	
28/ 27	.9	2.1	1.5	.4																59	59	47	71	
26/ 25	.5	1.8	1.4	.1																30	30	48	77	
24/ 23	.5	2.0	.9																	27	28	33	23	
22/ 21	.6	2.1	.4																	25	25	31	35	
20/ 19	.8	1.3	.1																	17	17	27	61	
18/ 17	.1	.1	.5																	4	4	11	22	
16/ 15	.1	.5	.3																	7	7	5	21	
14/ 13	.1	.3	.1																	4	4	4	27	
12/ 11																						4	14	
10/ 9																						1	7	
8/ 7																							10	
6/ 5																							4	
4/ 3																							5	
2/ 1																							1	
Element (K)	Σ x ²		Σ x		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ	
Rel. Hum.																								
Dry Bulb																								
Wet Bulb																								
Dew Point																								

USAFETAC FORM 0-26-5 (OL A) REVISION PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

PSYCHROMETRIC SUMMARY

APR
MONTH

0600-0800
HOURS (L, S, T.)

[illegible]

0-26-5 (OLA)
REVISED PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

USAFETAC

PSYCHROMETRIC SUMMARY

73-81

YEARS

APR
MONTH

PAGE 1 0900-1100
HOURS (L. S. T.)

[illegible]

PSYCHROMETRIC SUMMARY

YEARS

APR
MONTH

PAGE 1 1200-1400
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL		TOTAL	
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	= 31	O.B./W.B.	Dry Bulb	Wet Bulb	Dew Point														
44/ 65											.3							2	2																
46/ 61									.1	.1	.1		.1					4	4																
47/ 59									.5	.1	.1	.1						5	5																
47/ 57							.1	.1		.1	.5							7	7																
46/ 55							.5	.1		.5		.1						10	10																
44/ 53						.3	.3		.1	.3	.1							8	8																
44/ 51									.1	.1	.1							2	2																
44/ 49					.5	.1	.3	.3	.3	.1								10	10																
61/ 61				.1	.1	.1	.1	.1	.5									7	7	3															
56/ 65		.3				.3		.3	.4	.6	.3	.3						18	18	3															
54/ 63		.1		.1	.4	.5	.1	.4	.9	.3								22	22	16	1														
52/ 61						.5	.6	.8	.8	.3								23	23	5	2														
51/ 59		.1	.1		.1	.4	.4	.9	.5									20	20	6	5														
51/ 57		.1	.5	.5	.4	.8	.4	1.0	.4									30	30	17	6														
51/ 55		.1	.1	.1	.3	.6	1.6	1.0	.4									34	34	10	10														
54/ 53			.5	.3	1.1	1.5	1.8	1.3	.1									52	52	17	3														
52/ 51		.1	.3	.8	1.3	1.1	1.9	.5										47	47	17	13														
51/ 49	.1	.6	.5	1.3	.8	1.3	.4	.3										41	41	28	9														
49/ 47		.8	1.0	.4	1.0	1.4	.5	.1										41	41	40	6														
49/ 45	.5	1.5	1.1	1.0	1.8	.6	.9											57	57	57	25														
47/ 43	.1	.8	.8	1.4	1.6	.6	.1											47	47	19	24														
42/ 41	.3	.9	1.0	2.2	1.0	1.1	.1											52	52	68	26														
41/ 39	.8	1.0	1.5	1.8	1.0	.8	.1											55	56	64	39														
39/ 37	.4	1.8	.9	1.0	.9	.1												40	40	74	39														
37/ 35	1.5	1.5	.4	.4	1.4	.6												46	46	71	45														
37/ 33	.5	.8	1.5	1.5	1.4													43	43	54	57														
32/ 31	.1	1.1	1.3	.4	.4													30	30	52	81														
31/ 29	.1	.3	.5	1.0														15	15	41	48														
29/ 27	.1	.1	.6	.6														12	12	41	55														
25/ 25	.1	.1	.5	.3														8	8	22	60														
24/ 23			.1															1	1	17	34														
22/ 21	</																																		

PSYCHROMETRIC SUMMARY

APR
MONTH

1200-1400
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																				TOTAL		TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	D.B./W.B.	Dry Bulb	Wet Bulb	Dew Point				
14/ 15																					20				
14/ 13																					24				
1 / 11																					22				
1 / 9																					18				
1 / 7																					14				
1 / 5																					4				
4 / 3																					2				
1 / 1																					1				
1 / -1																					1				
TOTAL	4.4	12.0	21.5	21.5	8.1	5.4	12.5	10.5	7.6	4.3	2.4	1.4	.3						790	791	790				

PSYCHROMETRIC SUMMARY

73-81

YEARS

APR
MONTH

PAGE 1 1500-1700
HOURS (L. S. T.)

[illegible]

PSYCHROMETRIC SUMMARY

APR
MONTH

1500-1700
HOURS (L. S. T.)

[illegible]

PSYCHROMETRIC SUMMARY

APR
MONTH

PAGE 2 1800-2000
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																	TOTAL		TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	D.B./W.B.	Dry Bulb	Wet Bulb	Dew Point	
10 / 10																					23	
10 / 15																					17	
10 / 11																					18	
10 / 9																					14	
10 / 7																					16	
10 / 5																					9	
10 / 3																					8	
10 / 1																					5	
10 / -3																					1	
TOTAL	6.3	17.4	20.8	17.4	14.4	9.7	7.2	3.5	1.6	1.3	.1	.3							793		793	
																			793		793	

PSYCHROMETRIC SUMMARY

YEARS

APR
MONTH

2100-2300
HOURS (L. S. T.)

[illegible]

PSYCHROMETRIC SUMMARY

APR
MONTH

ALL
HOURS (L.S.T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																				TOTAL	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	= 31	D.B./W.B.	Dry Bulb	Wet Bulb	Dew Point			
66 / 85									.0	.0	.0	.0	.0					3	3					
64 / 83									.0	.0	.1	.0						7	7					
62 / 81								.0	.0	.0	.0	.0						9	9					
60 / 79								.0	.1	.0	.0	.0						11	11					
76 / 77							.0	.0	.0	.0	.1	.0						14	14					
76 / 75							.1	.1	.0	.1	.0	.0						24	24					
74 / 73						.0	.1	.0	.1	.1	.0							21	21					
74 / 71					.0	.1	.0	.0	.1	.1	.0							28	28					
72 / 69				.0	.1	.1	.1	.1	.1	.1	.0							31	31					
68 / 67				.1	.1	.2	.0	.1	.0	.1	.0							44	44					
66 / 65		.0	.1	.2	.2	.1	.1	.2	.2	.0	.0							71	71	10				
64 / 63		.1	.1	.1	.2	.2	.1	.2	.2	.2								91	91	45	3			
62 / 61	.1	.3	.0	.1	.1	.1	.2	.2	.2	.1								91	91	45	14			
60 / 59		.2	.2	.1	.1	.3	.3	.3	.2	.0								104	104	60	22			
58 / 57	.0	.3	.2	.1	.1	.5	.5	.5	.2									124	124	65	49			
58 / 55	.0	.2	.2	.2	.2	.3	.5	.4	.2									156	156	85	51			
54 / 53	.0	.4	.2	.3	.4	.5	.8	.5	.1									201	201	87	66			
52 / 51	.1	.5	.2	.3	.7	.8	.6	.2										220	220	98	64			
51 / 49	.2	.6	.4	.6	.7	.7	.2	.1										225	225	145	74			
49 / 47	.2	1.0	.5	.7	1.2	.8	.2	.0										295	295	183	88			
46 / 45	.2	1.2	.9	1.1	.8	.6	.1	.0										308	308	253	127			
44 / 43	.2	1.5	1.5	1.5	.9	.6	.0	.0										401	401	342	128			
42 / 41	.3	1.6	1.7	2.0	.9	.5	.1											445	445	429	208			
41 / 39	1.1	2.4	1.9	1.4	.7	.4	.0											506	507	509	254			
38 / 37	.4	2.3	1.5	1.1	.7	.2	.0											395	395	544	293			
36 / 35	.9	2.5	1.9	.8	.5	.2												436	436	547	336			
34 / 33	2.0	3.0	1.7	1.0	.5	.0												565	567	598	515			
32 / 31	1.2	3.3	2.3	.9	.2													502	503	543	676			
30 / 29	.5	1.9	2.1	.7	.1													331	331	459	459			
28 / 27	.4	1.2	1.2	.6														221	221	387	440			
26 / 25	.4	1.2	1.2	.1														185	185	335	475			
24 / 23	.1	.7	.6	.1														99	100	216	275			
22 / 21	.2	.6	.5	.0														87	87	151	296			
20 / 19	.2	.5	.2															56	57	95	394			
Element (X)	Σ X ²			Σ X			X	X ²	No. Obs.		Mean No. of Hours with Temperature													
Rel. Hum.											≤ 0 F	≤ 32 F	≤ 67 F	≤ 73 F	≤ 80 F	≤ 93 F				Total				
Dry Bulb																								
Wet Bulb																								
Dew Point																								

PSYCHROMETRIC SUMMARY

YEARS

APR
MONTH

PAGE 2

ALL
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																				TOTAL D.B./W.B.	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	Dry Bulb	Wet Bulb	Dew Point				
17	.1	.1	.1															19	19	54	253			
15	.1	.2	.1															22	22	30	167			
13	.0	.0	.0															7	7	11	182			
11																				7	151			
9																				2	101			
7																					81			
5																					34			
3																					33			
1																					15			
-1																					3			
-3																					4			
-5																					1			
-7																					3			
TOTAL	8.928	8.821	5.14	1.9	5	7.1	4.1	2.9	1.7	.9	.4	.1	.0						6341		6335			
																		6335		6335				

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PSYCHROMETRIC SUMMARY

1203Y PHELPS-COLLINS/ALPENA MI
STATION STATION NAME

15-81

YEARS

MAY
MONTH

PAGE 1 0000-0200
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL D.B./W.B.	TOTAL			
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	Dry Bulb	Wet Bulb	Dew Point																
61/ 79									.1									1														1				
71/ 77									.2									2														2				
141/ 73							.2											2														2				
141/ 71						.1												1														1				
111/ 69				.1	.1													2														2				
61/ 67			.1	.1	.4													5														5				
66/ 65		.1	.4	.5		.1												9														9				
141/ 63		.4	.4	.1				.1										8														8		7		
121/ 61		1.5	.5	.5	.1	.4												24														24	20	6		
111/ 59		1.6	1.2	.5	.4	.2	.1											33														33	16	10		
111/ 57		1.6	.4	.5	.1	.2												24														24	22	26		
111/ 55		1.7	1.6	.2	.2	.2	.2											35														35	26	21		
141/ 53	.4	3.1	1.0	.5	.4	.4	.5	.2										52														52	32	33		
121/ 51	.1	3.2	1.5	.4	.1	1.0												51														51	40	29		
111/ 49	.5	1.6	1.7		.5	.6												40														40	54	49		
141/ 47	.5	3.1	1.6	1.0	.6													60														60	38	34		
141/ 45	.4	3.6	1.6	1.5	.5													74														74	65	45		
141/ 43	.4	3.6	1.7	1.1														79														79	55	42		
141/ 41		3.2	2.6	1.0	.2													57														57	77	50		
141/ 39	.5	2.6	2.5	1.1														54														54	83	41		
111/ 37	.6	2.1	2.0	.4														41														41	53	55		
111/ 35	.1	3.1	2.8	.1														55														55	61	60		
141/ 33	1.2	2.7	1.6	.2														46														46	57	60		
121/ 31	.4	2.8	1.0	.6														37														37	49	73		
111/ 29	.1	1.0	.6															14														14	27	57		
121/ 27		.9																7														7	19	45		
111/ 25																																		12	32	
121/ 23																																			13	
121/ 21																																			14	
111/ 19																																			7	
111/ 17																																			3	
111/ 15																																			6	
TOTAL	6.2	44.8	29.6	10.5	3.8	3.3	1.1	.4	.4									813														813			813	
Element (X)	Σx ²		Σx		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ	
Rel. Hum.	5155815		63711		78.4		14.085		813		≤ 0 F		≤ 32 F		≥ 67 F		≥ 73 F		≥ 80 F		≥ 93 F		Total													
Dry Bulb	1769095		37147		45.7		9.403		813				6.6		1.5		.6						93													
Wet Bulb	1540607		34651		42.6		8.860		813				12.2										93													
Dew Point	1314993		31651		38.9		10.097		813				28.6										93													

USAFETAC FORM 14 0-26-5 (OL A) REVISED PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAL

PSYCHROMETRIC SUMMARY

72639 PHHELPS-COLLINS/ALPENA MI

73-81

MAY
MONTH

PAGE 1 0300-0500
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																					TOTAL		TOTAL	
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31	D.B. W.B.	Dry Bulb	Wet Bulb	Dew Point				
16/ 75								.1										1	1						
14/ 73							.1											1	1						
12/ 71					.1													1	1						
16/ 65			.1	.1														2	2						
14/ 63		.6	.4	.2														10	10		4				
12/ 61		.6	.6	.5	.1	.1	.4											19	19		5				
10/ 59		1.7	.6	.4	.2		.1											25	25		11				
08/ 57		1.8	.6	.5		.1												25	25		24				
06/ 55		1.6	1.1	.2	.2	.2												28	28		25				
04/ 53		2.7	1.3	.6		.4												41	41		25				
02/ 51	.6	2.8	.9	.4	.4	.6												46	47		43				
00/ 49	.4	2.8	2.1	.1	.6	.1												50	50		45				
22/ 47	1.2	2.9	1.2	.9	.4													54	54		53				
20/ 45	1.0	2.8	1.0	.9														46	46		48				
18/ 43	.2	4.2	2.5	.9														63	63		50				
16/ 41	.5	6.3	3.2	.7														87	87		63				
14/ 39	.1	4.7	2.1	.4														59	59		87				
12/ 37	1.1	3.9	2.0	.2														59	59		77				
10/ 35	.2	3.7	1.0	.2														42	42		52				
08/ 33	1.5	3.2	1.5	.1														50	50		60				
06/ 31	1.6	5.9	1.0	.5														63	63		47				
04/ 29	.7	2.3	.4															28	28		52				
02/ 27		1.5																12	12		28				
00/ 25		.2																2	2		14				
22/ 23		.1																1	1		2				
20/ 21																									
18/ 19																									
16/ 17																									
14/ 15																									
TOTAL	9.6	55.8	23.3	7.9	2.1	1.6	.6	.1											815		815				

USAFETAC FORM 0-26-5 (OL A) JUL 64 REVISED PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

PSYCHROMETRIC SUMMARY

73-81

YEARS

MAY
MONTH

PAGE 1 0600-0800
HOURS (L. S. T.)

[illegible]

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PSYCHROMETRIC SUMMARY

12639 PHHELPS-COLLINS/ALPENA MI

15-81

MAY

STATION

STATION NAME

YEARS

MONTH

PAGE 1

0900-1100

HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																					TOTAL D.B.-W.B.	TOTAL			
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	= 31	Dry Bulb	Wet Bulb	Dew Point						
86/ 85									.1	.1								2	2							
84/ 83								.4	.2			.1						6	6							
82/ 81							.2	.4	.2	.1		.1	.1					10	10							
80/ 79						.2	.6	.2	.1	.1	.1							12	12							
78/ 77					.4	.4	.5	.4	.4	.6	.1							19	19							
76/ 75				.4	1.3	.2	.2	.4	.1	.2								24	24							
74/ 73		.1	.2	.5	.5	.4	.4	.2	.2	.1								22	22							
72/ 71		.2	.4	.1	.4	.1	.4	.2	.2	.1	.2	.1						17	17	1						
70/ 69		.2	.1	.4	.2	.9	.5	1.0	.2	.1								30	30	12						
68/ 67	.1	.4		.5	.4	1.0	1.0	.1	.7									35	35	20	1					
66/ 65	.2	.1	.9	.9	.6	.1	1.0	.9	.4									41	41	27	5					
64/ 63	.4	.1	1.3	.5	.7	1.0	1.5	.7										51	51	19	12					
62/ 61	.4	.2	1.0	1.2	.9	1.2	.7	.1										47	47	25	22					
60/ 59	.6	.7	.7	1.1	.7	.2	.7	.1										41	41	39	24					
58/ 57	.5	.9	1.0	1.0	1.3	.9	.5											49	49	41	26					
56/ 55	.1	.5	.9	1.0	1.6	1.5	1.3	.5										60	60	45	20					
54/ 53	.9	1.3	.9	1.0	1.1	.7												48	48	53	32					
52/ 51	1.2	1.2	.7	1.8	1.0	1.0												57	57	69	36					
50/ 49	.1	1.2	.9	2.3	1.5	1.0	.1											58	58	70	38					
48/ 47	.1	1.3	.9	1.1	1.7	.4	.2											47	47	71	61					
46/ 45	.4	1.2	.7	.9	.7	.7												38	38	62	51					
44/ 43	.1	.9	.4	.9	1.0	.4												29	29	78	35					
42/ 41	.1	1.1	.7	1.7	.6	.1												36	36	49	46					
40/ 39		.7	.9	.9	.2													22	22	45	61					
38/ 37		.6	.5															9	9	32	52					
36/ 35	.1	.1	.1	.1														4	4	34	59					
34/ 33		.1																1	1	20	52					
32/ 31		.4																3	3	5	53					
30/ 29																				1	41					
28/ 27																					30					
26/ 25																					29					
24/ 23																					9					
22/ 21																					7					
20/ 19																					12					
Element (X)	Σ x ²		Σ x		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ	
Rel. Hum.																										
Dry Bulb																										
Wet Bulb																										
Dew Point																										

FORM 0-26-5 (OL A) REVISION PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE
USAFETAC

PSYCHROMETRIC SUMMARY

73-81

YEARS

MAY
MONTH

PAGE 2 0900-1100
HOURS (L. S. T.)

[illegible]

USAFETAC
FORM 0-26-5 (QLA)
REVISED PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

PSYCHROMETRIC SUMMARY

MAY
MONTH

1200-190
MOBILE, ALA. S. T. 1

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																								TOTAL D.B./W.B.	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥31	Dry Bulb	Wet Bulb	Dew Point								
91											.1	.1						2	2									
89										.1	.1	.1						3	3									
87										.1	.2		.4					6	6									
85									.4	.4	.2	.1	.2		.1			11	11									
83								.5	.9	.6	.6	.1	.2					24	24									
81						.1	.4	.5	.9	.5	.2		.1					22	22									
79					.1	.5	.5	.2	.4	.6	.4	.1	.1					24	24									
77						.1	.9	.1	.2	.2		.4						16	16									
75				.1	.1	.4	.2	.2	1.0	.4	.2	.4	.1					26	26									
73				.1	.1	.5	.9	.6	.6	.4	.6	.6						31	31									
71				.6	.2	.4	1.5	.4	.6	.4	.1	.4						37	37	5								
69			.1	.1	.2	.4	.9	.2	1.0	1.0	.4							35	35	23								
67			.5		.5	.7	.6	.5	.7	.9	.1							37	37	25								
65			.4	.1	.5	.2	.6	.9	1.6	.6								40	40	31								
63		.2	.5	.7	.5	1.1	1.1	1.2	.6	.1								50	50	33								
61		.5	.5	.7	1.1	1.1	1.4	.9	.6									43	44	22								
59		.7	1.5	.6	.9	1.3	1.5	.6										58	58	53								
57	.2	.5	1.0	.6	.6	1.8	1.6											52	52	34								
55	.1	1.0	.6	1.5	1.6	1.2	.6											54	54	49								
53	1.5	.5	.5	1.3	.6	.7	.4											45	45	68								
51	.4	.2	1.1	1.2	1.1	.9	.1	.1										42	42	74								
49	.2	.6	.5	.4	1.1	.5	.6	.1										53	53	68								
47	.2	.6	.6	.5	2.0	.6	.1	.1										39	39	55								
45		.7	.4	.7	1.0	.1	.1											25	26	87								
43	.1	.7	.4	.9	1.0	.5	.4											32	32	49								
41		.6	.2	.1														8	8	37								
39	.5	.5	.2	.1														11	11	47								
37		.5	.2															6	6	26								
35		.2																2	2	18								
33		.4																3	3	11								
31		.1																1	1	3								
29																												
27																												
25																												
Element (X)	ΣX²		ΣX		X̄		σ _x		No. Obs.		Mean No. of Hours with Temperature																	
Rel. Hum.											≤ 0 F		≤ 32 F		≥ 67 F		≥ 73 F		≥ 80 F		≥ 93 F		Total					
Dry Bulb																												
Wet Bulb																												
Dew Point																												

PSYCHROMETRIC SUMMARY

YEARS

MA 9
MONTH

PAGE 1 1500-1700
HOURS (L. S. T.)

PSYCHROMETRIC SUMMARY

<u>126390</u>	<u>PHelps-COLLINS/ALPENA MI</u>
STATION	STATION NAME

73-81

YEARS

MAY
MONTANA

PAGE 2 1500-1700
HOURS (L. S. T.)

PSYCHROMETRIC SUMMARY

YEARS

MAY
MONTH

HOURS (L. S. T.)

PSYCHROMETRIC SUMMARY

74639U PHELPS-COLLINS/ALPENA MI
STATION STATION NAME

73-81

YEARS

May
1951

PAGE 2 1400-2000
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																	TOTAL		TOTAL	
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	D.B./W.B.	Dry Bulb	Wet Bulb	Dew Point
14 / 13																					1
13 / 11																					4
11 / 9																					2
8 / 7																					1
TOTAL	2011502	8414017	147109	76	55	32	6	1	1									824	825	824	624

PSYCHROMETRIC SUMMARY

12639U	PHELPS-COLLINS/ALPENA MI
STATION	STATION NAME

73-81

YEARS

DAY
MONTH

PAGE 2 ~~2100-2300~~
HOURS (L. S. T.)

[illegible]

PSYCHROMETRIC SUMMARY

YEARS

MAY
MONTH

ALL
HOURS (L. S. T.)

PSYCHROMETRIC SUMMARY

YEARS

MAY
MONTH

PAGE 2

ALL
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																			TOTAL	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	D.B./W.B.	Dry Bulb	Wet Bulb	Dew Point		
26 / 25		.0																2	2	29	247		
24 / 23		.0																1	1	2	109		
21 / 21																					77		
17 / 17																					52		
14 / 13																					19		
14 / 13																					14		
14 / 13																					10		
11 / 11																					9		
10 / 9																					5		
9 / 9																					4		
TOTAL	5.626	0.18	2.12	0.71	0.5	8.3	1.5	5.0	4.0	2.6	.9	.6	.3			.0		6548		6543			
																		6543		6543			

USAFETAC FORM 0-26-5 (OL A) REVISED PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

PSYCHROMETRIC SUMMARY

126390	PHELPS-COLLINS/ALPENA MI
STATION	STATION NAME

73-81

YEARS

JUN
MONTH

PAGE 1

0000-0200

HOURS 11 5 T.V.

[illegible]

PSYCHROMETRIC SUMMARY

YEARS

MONTH

PAGE 1 0300-0500
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																				TOTAL D.B./W.B.	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	Dry Bulb	Wet Bulb	Dew Point				
14/ 13				.3		.1	.1											4	4					
14/ 11			.1	.4	.3	.4	.1											11	11					
17/ 69	.1		.3	.6	.3	.1												11	11	2				
52/ 67	.1	.3	1.9	.3	.1	.1												22	22	6				
46/ 65		.6	1.5	.5		.3												23	23	12				
47/ 63		1.5	1.3	.2	.3	.1												45	45	32				
42/ 61	.3	2.4	1.5	.6	.6													44	44	48				
47/ 59	.5	2.4	1.4	.3		.1												37	37	46				
57/ 57	.1	2.6	1.5	.8	.4													43	43	33				
56/ 55	1.0	6.8	2.1	.5	.3													85	85	56				
54/ 53	1.1	6.2	2.0		.1													75	75	90				
47/ 51	1.1	4.7	1.5	.3	.1													61	61	80				
56/ 49	1.1	4.0	1.0	.4														52	52	59				
47/ 47	.5	1.2	.8	.1														68	68	47				
47/ 45	.6	4.7	.6															47	47	82				
44/ 43	.8	4.4	.6	.1														47	47	49				
42/ 41	.5	3.5	.4															35	35	46				
47/ 39	2.0	3.2	.3															43	43	43				
57/ 37	1.1	1.3																19	19	35				
57/ 35	.8	1.8																12	12	17				
37/ 33	.4	.4																6	6	6				
42/ 31	.3	.1																3	3	3				
57/ 29																				1				
TOTAL	12.554	118.8	5.5	2.5	1.3	.3												793	793	793				
																		793		793				

PSYCHROMETRIC SUMMARY

726390	PHELPS-COLLINS/ALPENA MI
STATION	STATION NAME

73-81

YEARS

JUN
MONTH

PAGE 1 0600-0800
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL		TOTAL	
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	D.B. W.B.	Dry Bulb	Wet Bulb	Dew Point														
19			.1			.1	.1											3	3																
11					.1	.5												3	3																
15		.1		.1	.1	.4	.1											7	7	1															
73			.1	.9		.8												14	14	1	1														
71		.1	.4	.4	.8	.5	.4											20	20	1	1														
69			1.5	1.0	1.0	.6	.1											32	32	9	1														
67			1.9	1.4	.9	.4												36	36	10	3														
65			1.9	1.5	1.5	.6												54	54	24	11														
63	.5	2.2	.9	1.5	1.5	.5	.1											54	54	51	24														
61	.3	2.9	2.0	1.1	1.3	.1												61	61	64	45														
59	.5	1.6	2.8	1.4	.1	.1												52	52	60	56														
57	.8	4.3	2.8	1.8	.9	.3												85	85	64	55														
55	1.5	4.1	2.2	1.4	.6	.3												77	77	88	75														
53	.1	5.7	2.5	1.5	.1													61	61	87	73														
51	.4	2.5	5.2	.6	.4													56	56	63	74														
49	.9	3.4	1.8	.1	.1													50	50	65	70														
47	.1	3.6	.8	.5	.5													41	42	65	81														
45	.5	1.8	.5	.1														23	23	48	51														
43	.1	2.4	.5	.1														25	25	29	54														
41	.5	1.5	.4	.1														18	18	25	36														
39	.1	.4																7	7	17	28														
37	.3	.3																4	4	4	21														
35	.1	.3																3	3	3	12														
33	.1	.1																2	2	3	8														
31																				1	7														
29																					1														
TOTAL		157	226	515	4	9.5	4.9	.4										788	788	788	788														

PSYCHROMETRIC SUMMARY

YEARS

JUN
MONTH

PAGE 1 0900-1100
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																												TOTAL	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	= 31	D.B./W.B.	Dry Bulb	Wet Bulb	Dew Point											
81 / 61							.1	.1	.1									5	5													
82 / 62							.1	.5	.5	.4	.1							11	11													
83 / 63							1.0	.1	.6	.4	.3							19	19													
84 / 64			.1	.1		.3	.9		1.0	.1								20	20													
85 / 65			.1			1.1	.6	.8	.6	.1								27	27													
86 / 66					.4	1.0	.8	1.0	.5		.1							34	34	1												
87 / 67			.1		1.4	1.0	1.1	1.3	.5	.5								41	41	3	1											
88 / 68				.9	2.0	1.5	1.3	1.3	.3	.1								58	58	4	2											
89 / 69			.3	.6	1.1	1.0	1.4	1.1	.1									45	46	19												
90 / 70		.1	.5	1.0	1.3	1.9	2.0	.9	.1									62	62	28	3											
91 / 71		.1	1.0	1.3	1.1	1.8	1.9	.8	.1									64	64	50	9											
92 / 72		.5	.4	1.1	1.5	.8	1.1	.4										62	62	57	26											
93 / 73	.1	1.1	1.8	1.4	1.4	1.9	.6											70	70	68	42											
94 / 74		1.4	.8	1.3	1.5	.9	1.0	.1										55	55	61	44											
95 / 75	.1	2.3	.5	1.3	.6	.9	.4											48	48	107	55											
96 / 76	.1	1.6	1.0	1.3	1.3	.4	.3											47	47	82	77											
97 / 77	.1	.8	1.1	1.4	.5	.3												33	33	71	68											
98 / 78		.6	.4	.4	.8	.5												29	29	72	73											
99 / 79	.4	.4	1.0	.6	.4	.3												24	24	47	67											
100 / 80		.5	.9	.4	.4													16	16	41	56											
101 / 81	.1	.6	.1	.1	.1													9	9	30	66											
102 / 82	.3		.1															4	4	22	56											
103 / 83		.1		.3														3	3	10	45											
104 / 84																				7	32											
105 / 85		.5																2	2	1	22											
106 / 86																				3	16											
107 / 87																				2	9											
108 / 88																					8											
109 / 89																					5											
110 / 90																					5											
TOTAL	1.3	10.2	11.4	14.4	17.4	15.4	14.6	8.8	4.3	1.6	.5							792	792	193	192											

Element (X)	Σx^2	Σx	\bar{x}	σ_x	No. Obs.	Mean No. of Hours with Temperature						Total
Rel. Hum.	3279413	49367	62.3	15.991	92	= 0 F	= 32 F	= 67 F	= 73 F	= 80 F	= 93 F	
Dry Bulb	3558545	52619	66.4	9.201	793			44.4	24.9	7.8		90
Wet Bulb	2730958	46166	58.3	7.104	792			11.9	.9			90
Dew Point	2212672	41358	52.2	8.185	792			1.1	1.7	.3		90

JSAFETAC
FORM
NM 44
0-26-5 (OL A)
REVISED PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

PSYCHROMETRIC SUMMARY

YEARS

JUN
MONTH

PAGE 1 1200-1400
HOURS (L. S. T.)

[illegible]

USAFETAC
FORM
NR 44
0-26-5 (OL A)
REVISED PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PSYCHROMETRIC SUMMARY

120591 PHELPS-COLLINS/ALPENA MI

13-81

YEARS

JUN
MONTH

PAGE 1 1500-1700
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																					TOTAL	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	D.B./W.B.	Dry Bulb	Wet Bulb	Dew Point				
91								.1		.3	.3							5		5					
89							.1	.3		.4	.1	.1						8		8					
87								.6	.1	.4	.5							13		13					
85								.1	.6	.8	1.3	.3						24		24					
83								1.1	1.0	1.4	.6	.4						36		36					
81							.5	.8	1.5	1.1	.4							34		34					
79				.1		1.0	.8	1.1	1.0	.8	1.6	.3						53		53					
77				.1	.3	.9	1.4	.6	.9	.1	.8							40		40	2				
75			.1	.1	.9	1.1	.8	.5	.9	.9								42		42	2				
73			.4	.4	.6	1.5	1.6	.5	2.4	1.1	.3							70		70	6				
71		.1	.5	.5	.9	.8	1.4	.8	1.0	1.0	.3							57		57	21				
69			.3	.5	1.6	1.1	.5	1.4	.1	.1								45		45	33				
67		.3	.8	1.0	1.0	1.0	1.0	1.0	.4	.1								52		52	69				
65		.5	1.0	1.0	1.9	1.3	1.9	.6	.5	.1								70		70	70				
63		.8	.8	.8	.5	1.0	1.6	1.0	.4									52		52	72				
61		.8	1.1	.9	1.0	1.1	.9	.1										47		47	67				
59		1.5	.8	.9	1.1	1.4	.9	.5										56		56	89				
57		1.4	.8	.4	.4	.4	.4	.1										30		30	85				
55		1.6	1.1	.3	.8													30		30	73				
53		.3	.1	.5	.1	.4												11		11	74				
51		.1		.1	.1	.3												5		5	47				
49			.4		.4													6		6	36				
47	.1		.1															2		2	43				
45	.3	.1																3		3	13				
43																					6				
41																					3				
39																									
37																									
35																									
33																									
31																									
29																									
TOTAL	.4	7.5	8.2	7.6	11.4	13.3	13.8	10.7	11.4	8.3	5.9	1.5						791		791					
Element (X)	Σx'		Σx		Σ		Σ _n		No. Obs.		Mean No. of Hours with Temperature						Total								
Rel. Hum.	2600500		43030		54.4		18.131		791		≤ 0 F	≤ 32 F	≤ 67 F	≤ 73 F	≤ 80 F	≤ 93 F	Total								
Dry Bulb	3944127		55357		70.0		9.416		791				54.5	37.0	16.4		90								
Wet Bulb	2820275		46931		59.3		6.732		791				15.1	1.1			90								
Dew Point	2144498		40610		51.3		8.684		791			1.6	1.6				90								

USAFETAC FORM 0-26-5 (OL A) REVISION PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAL

PSYCHROMETRIC SUMMARY

72639J PHELPS-COLLINS/ALPENA MI

73-81

JUN
MONTH

PAGE 1 1800-2000
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																					TOTAL	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	D.B./W.B.	Dry Bulb	Wet Bulb	Dew Point				
87								.1										1	1						
85								.4	.1			.1	.1					6	6						
83						.1	.3	.5	.3	.4	.3							14	14						
81							.3	.4	.5	.4	.3							14	14						
79						.3	.4	1.0	.6	.5	.3							24	24						
77					.4	.5	.9	.8	.6	.4	.1							29	29						
75			.4		.5	1.4	.6	1.0	1.1	.1								41	41						
73		.1	.3	.4	1.0	1.3	1.0	.5	1.0	.4								53	53	5					
71		.1	.5	1.0	1.4	.9	1.3	1.3	.5	.1								56	56	8	2				
69		.3	1.0	1.4	1.3	1.1	1.3	.8	.8	.1								63	63	16	4				
67		.3	1.6	1.6	1.6	1.5	1.8	.8	.4									76	76	39	6				
65		.3	.9	1.9	1.3	1.6	.9	.3	.3									58	58	67	17				
63		1.6	1.4	1.8	1.0	1.6	2.0	.8	.1									82	82	74	32				
61		1.0	.8	1.3	1.3	.8	.9	.4										52	52	77	47				
59	.1	1.4	1.3	.9	1.3	1.3	.8											59	59	82	74				
57	.1	1.8	1.0	.8	1.1	1.0	.5	.1										51	51	91	67				
55	.1	1.4	.9	1.0	1.5	.5	.4											46	46	81	65				
53		1.3	.8	1.0	.5	.3												30	30	72	63				
51	.4	.5	.3	.4	.1	.5												17	17	56	66				
49			.4	.1	.4													7	7	45	54				
47			.5	.1	.3													7	7	37	60				
45	.1	.6	.1		.1													8	8	25	62				
43																				12	41				
41				.1														1	1	5	25				
39																				1	42				
37																				2	26				
35																					11				
33																					17				
31																					11				
29																					3				
TOTAL	.4	11.1	11.9	14.0	15.7	14.6	13.1	8.9	6.3	2.4	1.0	.1						795	795	795	795				
																		795		795					
Element (X)	Σ X'		Σ X		X		X		No. Obs.		Mean No. of Hours with Temperature										Total				
Rel. Hum.	3248456		48858		61.5		17.595		795		≤ 0 F	≤ 32 F	≥ 67 F	≥ 73 F	≥ 80 F	≥ 93 F			90						
Dry Bulb	3506784		52368		65.9		8.489		795				42.7	20.6	5.5					90					
Wet Bulb	2676293		45817		57.6		6.714		795				7.7	.6					90						
Dew Point	2139524		40678		51.2		8.557		795		1.6	1.4							90						

USAFETAC FORM 0-26-5 (OL A) REVISED PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE JAN 64

PSYCHROMETRIC SUMMARY

JUN
MONTH

2100-2300
HOURS (A. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																												TOTAL	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	D.B./W.B.	Dry Bulb	Wet Bulb	Dew Point											
79					.1													1	1													
78					.1													1	1													
77				.1		.1												2	2													
76			.1	.4	.6	.4	.1	.1	.1									15	15													
75			.3	.6	.6	.8	.3	.3	.1									23	23	2												
74		.3	.9	1.0	.5	.8	.3	.1										30	30	3												
73		.9	1.5	1.0	.6	.3	.3											36	36	8	7											
72	.1	1.8	2.4	1.6	1.4	.4	.1											62	62	39	10											
71	2.3	1.8	1.6	1.3	.3	.1												50	50	34	28											
70	.1	3.0	2.1	1.8	1.1	.1	.1											67	67	60	31											
69		3.5	3.4	1.1	1.4	.1	.1											77	77	66	63											
68	.3	4.3	2.5	1.4	.6													72	72	80	61											
67	.1	3.2	3.4	2.3	.9													78	78	80	61											
66	.4	3.9	2.1	1.4	.1													63	63	78	74											
65	.8	2.9	4.4	1.9	.5													75	75	85	79											
64	.4	.9	2.5	1.0	.4													41	41	65	75											
63	.4	2.0	1.6	.5	.4													39	39	59	61											
62		1.6	1.8	.1														28	28	39	67											
61	.1	1.3	.6	.1														17	17	41	45											
60	.1	1.0	.1															10	10	28	47											
59	.1																	4	4	15	34											
58		.1																1	1	2	21											
57		.1																1	1	3	14											
56																				1	6											
55																					9											
TOTAL	2.7	33.0	52.0	16.0	10.1	3.2	1.4	.5	.3									793	793	793	793											

Element (X)	ΣX'	ΣX	X	ΣX	No. Obs.	Mean No. of Hours with Temperature						Total
Rel. Num.	4465219	61973	78.2	12.463	793	≤ 0 F	≤ 32 F	≥ 67 F	≥ 73 F	≥ 80 F	≥ 93 F	
Dry Bulb	2689126	45766	57.7	7.773	793			12.3	2.2	.1		90
Wet Bulb	2338202	42704	53.9	6.976	793			1.5				90
Dew Point	2080681	40163	50.6	7.666	793		1.0	.8				90

USAFETAC FORM 0-26-5 (OLA)
REVISED PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

PSYCHROMETRIC SUMMARY

YEARS

JUN
MONTH

PAGE 1

ALL

MOORE & S. T.

[illegible]

PSYCHROMETRIC SUMMARY

16590 PHELPS-COLLINS/ALPENA MI
STATION STATION NAME

73-81

YEARS

MONTH

PAGE 1 0000-0200
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																					TOTAL	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	D.B./W.B.	Dry Bulb	Wet Bulb	Dew Point				
1 / 19				.1	.6													6	6						
7 / 17				.1	.1	.1												3	3						
16 / 75				.4	.1	.1												5	5						
14 / 73		.1	.4	.4	.9													14	14	4					
11 / 71	.2	.4	1.6	1.2	.6		.2											35	35	9	3				
11 / 69	.2	.7	1.2	1.3	.1	.5												36	36	13	12				
11 / 67	.4	1.6	1.4	.9	.2		.1											41	41	35	20				
16 / 65	1.4	3.6	2.6	.5	.1	.1												67	67	56	41				
14 / 63	1.5	4.6	2.2	1.4	.7	.1												85	86	79	48				
12 / 61	.7	4.6	2.0	1.7	.7													79	79	62	69				
11 / 59	1.4	5.5	2.7	.6														82	82	90	85				
11 / 57	2.0	4.0	3.2	.5														78	78	89	106				
11 / 55	1.5	4.2	2.1	.2														65	65	81	47				
14 / 53	.9	5.2	2.1	.4														69	69	74	71				
12 / 51	.5	3.6	2.5	.2														55	55	69	90				
11 / 49	.4	3.4	1.4	.1														42	42	53	74				
11 / 47	.2	2.1	.7															25	25	51	48				
11 / 45	.4	.1	.1															10	10	25	49				
14 / 43	.1	.2																3	3	9	17				
12 / 41	.1																	1	1	2	16				
11 / 39	.1																	1	1	1	6				
11 / 37	.1																	1	1	1	1				
11 / 35	.1																	1	1	1	1				
TOTAL	12.3	44.0	26.7	10.3	4.4	1.0	.4											804		804	804				
														</											

PSYCHROMETRIC SUMMARY

73-81

JUL
MONTH

PAGE 1 0300-0500
HOURS (L. S. T.)

[illegible]

USAFETAC
FORM
NO. 44
0-26-5 (OL A)
REVISED PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

PSYCHROMETRIC SUMMARY

13-81

YEARS

JUL
MONTH

PAGE 1 0600-0800
HOURS (L. S. T.)

[illegible]

0-26-5 (OLA)
REVISED PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

0-26-5 (OL A)

1750

USAFETAC

PSYCHROMETRIC SUMMARY

16390
STATION

PHELPS-COLLINS/ALPENA MI

75-61

YEARS

444

MONTH

PAGE 1

U900-1100

HOURS (L, S, T.)

[illegible]

PSYCHROMETRIC SUMMARY

YEARS

MONTH

PAGE 1

1200-1400
HOURS (L, S, T, J)

[illegible]

PSYCHROMETRIC SUMMARY

YEARS

PAGE 2 1200-1400
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																														TOTAL		TOTAL	
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	+31	D.B.-W.B.	Dry Bulb	Wet Bulb	Dew Point													
TAL	.4	4.6	5.7	6.7	9.9	12.3	15.2	15.2	12.3	8.8	4.6	2.6	.6	.1						821		821												
																				821		821												

PSYCHROMETRIC SUMMARY

13-41

YEARS

JUL
MONTH

PAGE 1 1500-1700
HOURS 1500-1700

[illegible]

PSYCHROMETRIC SUMMARY

73-81

JUL
MONTH

PAGE 4 1500-1700
HOURS L. S. T.

AD-A116 099

AIR FORCE ENVIRONMENTAL TECHNICAL APPLICATIONS CENTER--ETC F/G 4/2
PHELPS-COLLINS, ALPENA, MICHIGAN. REVISED UNIFORM SUMMARY OF SU--ETC (11)
MAY 82

UNCLASSIFIED

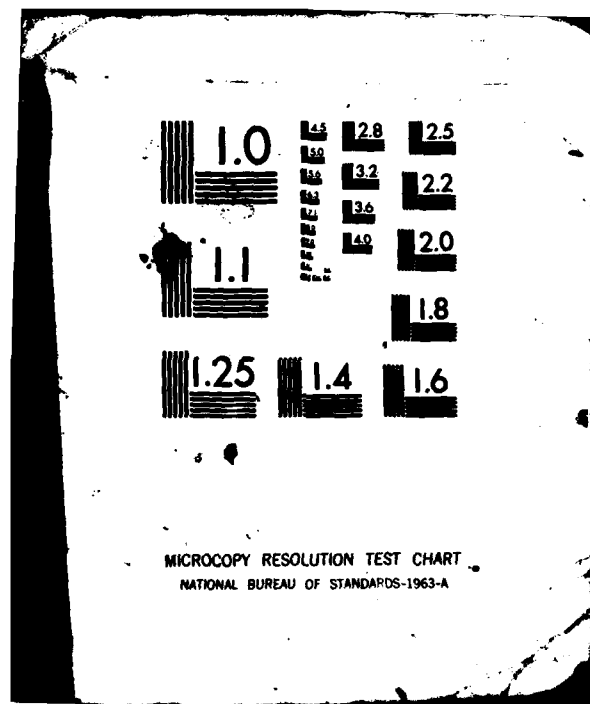
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JUN 82
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PSYCHROMETRIC SUMMARY

75-01

300
MONTH

PAGE 1 1800-2000
HOURS (L. S. T.)

PSYCHROMETRIC SUMMARY

YEARS

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A11

HOURS (L. S. T.)

[illegible]

PSYCHROMETRIC SUMMARY

75-84

JUL

PAGE 2

ALL

1924/25 (L. S. Y.)

PSYCHROMETRIC SUMMARY

72639U	PHELPS-COLLINS/ALPENA MI
STATION	STATION NAME

73-81

AUG
MONTH

PAGE 1 0000-0200
HOURS (L. E. T.)

[illegible]

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0600-0800
MONDAY (1-5-7)

0-26-5 (OLA)

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PSYCHROMETRIC SUMMARY

160340	PHELPS-COLLINS/ALPENA MI
STATION	STATION NAME

73-81

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PAGE 1 0900-1100
HOURS (L. E. T.)

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726390
STATION

STATION NAME

YEARS

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PSYCHROMETRIC SUMMARY

<u>726390</u>	<u>PHELPS-COLLINS/ALPENA MI</u>
STATION	STATION NAME

73-41

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PAGE 1 2100-2300
HOURS (L. S. T.)

[illegible]

PSYCHROMETRIC SUMMARY

120540
STATION

PHELPS-COLLINS/ALPENA MI

73-41

YEARS

A11B

MONTH

PAGE 1

HOURS (L. S. T.)

[illegible]

PSYCHROMETRIC SUMMARY

120390
STATION

PHILIPS-COLLINS/ALPENA MI
STATION NAME

75-81

YEARS

SEP
MONTH

PAGE 1

0000-0200
HOURS (L. S. T.)

[illegible]

PSYCHROMETRIC SUMMARY

726390 PHELPS-COLLINS/ALPENA MI
STATION STATION NAME

73-81

YEARS

SEP
MEMPHIS

PAGE 1 0300-0500
MAY 2 (L. F. T.)

[illegible]

PSYCHROMETRIC SUMMARY

73-81

SEP
MONTH

PAGE 1 0600-0800
HOURS (L. S. T.)

[illegible]

PSYCHROMETRIC SUMMARY

360

PAGE 1 0900-1100
HHS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																					TOTAL D.B./W.B.	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	Dry Bulb	Wet Bulb	Dew Point					
46/ 85						.1												1	1						
48/ 83					.1	.4												5	5						
42/ 81					.4	.3	.1	.1										7	7						
44/ 79				.1	.3	.3	.1	.1	.1									7	7						
40/ 77				.3	.3	.3	.1	.3										9	9						
46/ 75			.1	.3	.3	.3	.4	.1										13	13	.4					
74/ 73		.3	.1	.5	.8	.5	.5	....										21	21	11				
72/ 71		.3	.1	.1	.9	.1	.9											19	19	8					
70/ 69		.3	.6	.4	1.2	1.0	.1											28	28	6					
68/ 67		.5	.6	.6	.6	.4	.5	.1										27	27	20					
66/ 65	.3	.6	1.3	1.8	1.0	.9	.1											51	51	25					
64/ 63	.1	.8	2.0	1.8	1.0	.8	.8											64	64	33					
62/ 61	.8	1.8	1.4	2.3	1.7	.5	.5	.1										71	71	50					
60/ 59	.3	2.2	1.3	2.3	1.5	1.3	.1											86	87	75					
58/ 57	.3	2.3	3.1	2.2	1.3	.8												77	77	65					
56/ 55	.8	2.6	1.7	1.9	1.8	.8												74	74	78					
54/ 53	.3	2.8	2.1	1.2	.9	.3												60	60	100					
52/ 51	.8	2.4	2.2	2.3	.9	.1												67	67	68					
50/ 49	.1	.6	1.4	.9		.1												25	25	72					
48/ 47	.1	.6	.9	.5	.1													18	18	30					
46/ 45	.1	.9	1.2	.6														22	22	44					
44/ 43		.9	.5	.1	.3													14	14	31					
42/ 41		.4	.8		.1													10	10	19					
40/ 39		.1	..		..													1	1	12		
38/ 37				.1														1	1	6					
36/ 35																				1					
34/ 33																				2					
32/ 31																				7					
30/ 29																				2					
28/ 27																				2					
26/ 25																				1					
24/ 23																				1					
22/ 21																				1					

Element (X)	ΣH^2	ΣH	Σ	σ_n	No. Obs.
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0-20-5 (OL A)
SERVED SEVERAL EPOCHS OF THIS FORM ARE COURTESY

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PSYCHROMETRIC SUMMARY

726390
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

SEP
MONTH

PAGE 1 1200-1800
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																TOTAL	TOTAL				
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	= 31	D.B./W.B.	Dry Bulb	Wet Bulb	Dew Point	
42/ 91										.1								1	1			
40/ 89											.1							1	1			
48/ 87							.1	.4	.1		.1							6	6			
46/ 85						.3	.8				.3							10	10			
44/ 83						.5	.1	.9		.4	.1	.1						17	17			
42/ 81						.1	.3	.4	.5	.3								12	12			
40/ 79					.1	.6	.3	.5	.3	.6								19	19			
38/ 77				.1	.4	.4	.8	.8	.2									23	23			
36/ 75			.1	.4	.4	.4	.4	.5	.5									26	26	5		
34/ 73		.1	.4	.1	.4	1.4	1.1	1.0	.5									40	40	15		
32/ 71		.1			.4	.8	.3	.4	.3		.1							20	20	9	3	
30/ 69		.3	.3	.5	.8	1.0	1.0	.6		.1								36	36	21	10	
28/ 67	.1	.1	.4	.4	1.1	1.0	1.0	.8	.5									56	56	25	17	
26/ 65	.5	.4	1.0	1.4	1.5	1.5	1.5	1.8	.4									75	75	34	16	
24/ 63		.9	.9	1.6	1.6	1.6	1.1	1.5	1.0									69	69	43	16	
22/ 61		1.4	1.6	1.9	2.1	2.1	.9	.1										81	81	66	24	
20/ 59	.5	.9	2.0	1.9	.6	1.8	1.0	.1										70	70	59	48	
18/ 57	.1	1.3	1.4	1.5	1.8	2.0	1.0											72	73	91	44	
16/ 55		1.6	.4	.5	2.0	1.0	.3											50	50	80	62	
14/ 53	.1	1.0	1.4	1.5	1.5	.5	.3											34	34	79	67	
12/ 51	.4	.8	.8	1.4	.9	.4	.1											37	37	76	70	
10/ 49			.1	.4	.8	.4												13	13	55	67	
8/ 47		.1	.6	.1	.3													9	9	49	53	
6/ 45		.3	.5	.4		.1	.1											11	11	39	49	
4/ 43			.1	.1		.1												3	3	20	40	
2/ 41																				13	39	
41/ 39																				0	40	
39/ 37																				1	28	
36/ 35																				3	30	
34/ 33																					16	
32/ 31																					16	
30/ 29																					4	
28/ 27																					2	
26/ 25																					3	
Element (X)	Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ	
Rel. Hum.																					Total	
Dry Bulb																						
Wet Bulb																						
Dew Point																						

PSYCHROMETRIC SUMMARY

73-81

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PAGE 2 **1200-1400**
HOURS (L. S. T.)

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GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PSYCHROMETRIC SUMMARY

160350 PHILPS-COLLINS/ALPENA MI
STATION STATION NAME

73-81

YEARS

SEP
MONTH

PAGE 1 1900-2000
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																					TOTAL D.B./W.B.	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31	Dry Bulb	Wet Bulb	Dew Point					
85/ 85						.1															1	1			
84/ 83					.3	.1	.1														4	4			
82/ 81				.1	.1		.1	.1													4	4			
80/ 79				.1		.3		.3	.3	.1											8	8			
78/ 77				.3	.3	.3	.5	.3													10	10			
76/ 75			.1	.3	.3	.1	.4	.1	.4												15	15			
74/ 73			.3	.3	.1		.4	.1	.5												11	11	5		
72/ 71		.3	.3	.4	.3	.6	.1	.3	.1												18	18	2	8	
70/ 69		.5	.5	.1	.6	.4	.1														18	18	16	3	
68/ 67		.3	1.3	.9	1.0	.8	.4	.1													37	37	11	9	
66/ 65	.3	.6	1.4	1.3	1.3	.5	.4														45	45	23	13	
64/ 63	.1	1.9	1.0	.8	.9	.3	.5	.1													44	44	31	17	
62/ 61		1.9	1.6	1.8	1.9	.6	.5														66	66	48	18	
60/ 59	.3	2.7	3.7	1.9	1.3	.6															82	82	52	46	
58/ 57	.4	1.9	1.8	2.1	1.4	.4	.1														64	64	72	48	
56/ 55	.5	2.9	1.9	3.0	2.7	.5															91	91	77	61	
54/ 53	.1	2.1	2.7	2.4	.9	.1															66	66	78	56	
52/ 51	...	2.1	3.2	2.0	.9	...															65	65	71	68	
50/ 49	.1	1.1	1.9	1.3	.4																38	38	74	69	
48/ 47	.1	.9	1.8	1.0	.3																32	32	80	66	
46/ 45		1.4	.8	.5																	21	21	51	48	
44/ 43		1.6	.8		.3																21	21	29	61	
42/ 41		.6	1.3	.5																	17	17	26	60	
40/ 39		...	...	...																	5	5	18	54
38/ 37		.3	.5																		6	6	13	27	
36/ 35	.1	.3	.1																		4	4	4	28	
34/ 33																							6	12	
32/ 31																								11	
30/ 29																								5	
28/ 27																								5	
26/ 25																								1	
24/ 23																								1	
TOTAL	2.023	8.26	7.20	6.14	8	6.1	3.4	1.8	.8	.1											791	791	791	791	
Element (X)	2 ₁	2 ₂	X	° ₁	No. Obs.	Mean No. of Hours with Temperature					Total														
Ref. Num.	4401991	57929	73.234	211	791	≥ 6 F	≥ 32 F	≥ 67 F	≥ 75 F	≥ 80 F	≥ 93 F	Total													
Dry Bulb	2727844	45914	58.0	8.912	791			14.3	6.0	1.7		90													
Wet Bulb	2288083	42073	93.2	7.012	791			4.3	1.0			90													
Dew Point	1961724	38778	49.0	6.763	791		2.4	2.3				90													

PSYCHROMETRIC SUMMARY

72639U PHELPS-COLLINS/ALPENA MI
STATION STATION NAME

73-81

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STATION

STATION NAME

YEARS

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PAGE 1 2100-2300

2100-2300
HOURS (L. S. T.)

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PSYCHROMETRIC SUMMARY

126391 PHELPS-COLLINS/ALPENA MI
STATION STATION NAME

73-81

YEARS

SEP
MONTH

PAGE 1

ALL
HOURS (L. S. T.)

[illegible]

PSYCHROMETRIC SUMMARY

120340
STATION

PHelps-COLLINS/ALPENA MI
STATION NAME

15-81

YEARS

SEP
MONTH

PAGE 2

ALL

HOURS (L. S. T.)

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PSYCHROMETRIC SUMMARY

146590
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

YEARS

OCT
MONTH

PAGE 1

0300-0500
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																					TOTAL	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	D.B./W.B.	Dry Bulb	Wet Bulb	Dew Point				
69				.4														3	3						
67			.1			.2												3	3						
65		.1	.1		.1													3	3						
63																					6				
61		.4	.4															6	6		6				
59	.1	.1	.4	.4	.1													9	9	5	4				
57	.4	.4	.7	.4	.4													21	21	14	8				
55		1.9	.4	.1	.5													23	23	12	8				
53	.1	2.1	.2	.1	.6													26	26	28	16				
51	.4	3.0	.7	.4														36	36	23	31				
49	1.2	2.2	1.1	.5	.4													44	44	45	38				
47	.6	2.1	1.0	.6	.4													32	32	25	21				
45	.1	4.5	.9	.4	.1													48	48	43	18				
43	.6	5.6	2.1	.4	.1													71	71	52	41				
41	1.2	5.3	2.5	.1														74	74	79	62				
39	1.5	4.0	1.4															55	55	65	74				
37	1.4	6.1	1.1															69	69	68	49				
35	2.4	4.5	1.7															69	69	85	67				
33	1.6	4.7	.4	.1														55	55	59	88				
31	1.4	5.2	1.4	.6														69	69	54	71				
29	2.6	2.1	.2	.2														42	43	62	66				
27	1.5	1.6	.5															29	29	42	50				
25	.4	1.2																13	13	22	26				
23		.6																2	2	13	18				
21	.2																	2	2	2	15				
19																			1		17				
17																					4				
15																					2				
13																					5				
11																					1				
TOTAL	11.7	58.0	17.4	4.0	2.1	.2												804	806		804				

USAFETAC FORM 0-26-5 (OL A) REVISED PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

PSYCHROMETRIC SUMMARY

726390
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81

YEARS

ACI

PAGE 1 ~~1200-1400~~

1200-1400

[illegible]

PSYCHROMETRIC SUMMARY

UC 1
MONTH

PAGE 2 1200-1400
HOURS (L. S. T.)

[illegible]

PSYCHROMETRIC SUMMARY

YEAR:

OCI

PAGE 1 1500-1700
HOURS (L. S. - P.)

[illegible]

PSYCHROMETRIC SUMMARY

12639U
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-01

YEARS

UC 1
NOTES

PAGE 2 1500-1700
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																				TOTAL	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	= 31	D.B./W.B.	Dry Bulb	Wet Bulb	Dew Point			
14/ 13																					8			
TOTAL	1.5	12.5	19.2	25.2	20.4	9.0	5.4	4.8	1.6	.9			.1					818	819	818	818			

PSYCHROMETRIC SUMMARY

USAFETAC

AIR WEATHER SERVICE/MAC

726390 PHELPS-COLLINS/ALPENA MI
STATION STATION NAME

73-81

OCI
NORTH

PAGE 1 1800-2000
HOURS (L. S. T.)

1921年 (土、金、土)

0-26-5 (OL A) STRESS NERVOUS RESPONSE OF THIS FORM AND CLOSURE

OSAPETAC

PSYCHROMETRIC SUMMARY

YEARS

OCT
2007

PAGE 1 2100-2300
HOURS (L. S. T.)

PSYCHROMETRIC SUMMARY

YEARS

OCI
MONTH

ALL
HOURS (L. S. T.)

PSYCHROMETRIC SUMMARY

12639U	PHelps-COLLINS/ALPENA MI
STATION	STATION NAME

73-81

UC 1
MONTH

PAGE 2

ALL

ALL
HOURS (L. S. T.)

PSYCHROMETRIC SUMMARY

746390 PHELPS-COLLINS/ALPENA MI
STATION STATION NAME

73-81

NOV
MONTH

YEARS

PAGE 1 0000-0200
HOURS (L. S. T.)

PSYCHROMETRIC SUMMARY

<u>1.639U</u>	<u>PHELPS-COLLINS/ALPENA MI</u>
STATION	STATION NAME

73-81

YEARS

NOV
MONTH

PAGE 2

0000-0200
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																												TOTAL	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	D.S./W.B.	Dry Bulb	Wet Bulb	Dew Point											
-7	21.8	3.0	18.4	4.3	2.0	.4																										
783																		783	784	783	783											

PSYCHROMETRIC SUMMARY

YEARS

NOV
MONTH

PAGE 1 0300-0500
HOURS (L. S. T.)

[illegible]

USAFETAC FORM 0-26-5 (OL A) REVISED PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

PSYCHROMETRIC SUMMARY

726390
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81

YEARS

NOV
MONTH

PAGE 2 0300-0500
HOURS (L. S. T.)

[illegible]

PSYCHROMETRIC SUMMARY

YEARS

NOV
MONTH

PAGE 1 0600-0800
HOURS (L. S. T.)

PSYCHROMETRIC SUMMARY

<u>726390</u>	<u>PHELPS-COLLINS/ALPENA MI</u>
STATION	STATION NAME

73-81

YEARS

NOV
MONTH

PAGE 2 0600-0800
HOURS (L. S. T.)

PSYCHROMETRIC SUMMARY

776390
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81

YEARS

NOV
MONTH

PAGE 2

0900-1100
HOURS (L. S. T.)

PSYCHROMETRIC SUMMARY

726390	PHELPS-COLLINS/ALPENA MI
STATION	STATION NAME

73-81

YEARS

NOV
MONT

PAGE 2 1200-1400
HOURS (L. S. T.)

[illegible]

PSYCHROMETRIC SUMMARY

13-01

YEARS

NOV
MONTH

PAGE 1

1500-1700
HOURS (L. S. T.)

PSYCHROMETRIC SUMMARY

726390
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81

YEARS

NOV
MONTH

PAGE 2 1500-1700
HOURS (L. S. T.)

PSYCHROMETRIC SUMMARY

73-81

YEARS

NOV
MONTH

PAGE 1 1800-2000
HOURS (L. S. T.)

PSYCHROMETRIC SUMMARY

YEARS

NOV
MONTH

2100-2300

2:00 - 2:30
HOURS (L - S - T)

PSYCHROMETRIC SUMMARY

YEARS

NOV
MONT

PAGE 2 2100-2300
HOURS (L. S. T.)

[illegible]

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAL

PSYCHROMETRIC SUMMARY

1-6390 PHELPS-COLLINS/ALPENA MI

73-81

YEARS

NOV
MONTH

PAGE 1

ALL
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																					TOTAL	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	D.B./W.B.	Dry Bulb	Wet Bulb	Dew Point				
76 / 75									.0									2	2						
74 / 73								.0	.0		.0							4	4						
72 / 71										.0								1	1						
70 / 69				.0	.1	.0	.0	.0										9	9						
68 / 67				.0	.1	.0			.0									8	8						
66 / 65			.0	.0	.1		.0	.0	.0	.0								15	15						
64 / 63			.0	.1	.1	.1	.0	.0	.0									24	24	2					
62 / 61		.0	.0	.1	.2	.1	.1	.1										42	42	14	1				
60 / 59	.0	.2	.0	.2	.2	.1	.0	.0										45	45	19	12				
58 / 57	.2	.3	.2	.2	.1	.1	.1	.0	.0	.0								78	78	32	26				
56 / 55	.1	.4	.2	.2	.2	.2	.1	.0										95	95	53	37				
54 / 53	.1	.6	.2	.2	.2	.2	.0	.0										101	101	76	45				
52 / 51	.3	.5	.3	.2	.5	.2	.1											130	130	116	53				
50 / 49	.1	.7	.4	.5	.3	.2	.0											136	136	103	98				
48 / 47	.4	.9	.6	.6	.4	.1												204	204	155	126				
46 / 45	.4	1.4	.7	.5	.4	.1												251	251	186	127				
44 / 43	.3	1.8	.9	.8	.3	.1												257	259	247	126				
42 / 41	.4	1.9	1.8	.9	.4	.0												339	339	241	179				
40 / 39	1.1	2.5	2.0	1.1	.3	.0												435	435	338	223				
38 / 37	.7	3.0	2.1	1.5	.1													467	468	400	253				
36 / 35	.9	3.2	2.9	.9	.0													503	504	444	325				
34 / 33	1.4	4.2	3.1	.6	.0													563	564	562	342				
32 / 31	1.7	5.9	3.3	.4														709	709	631	583				
30 / 29	1.6	3.7	2.4	.1														487	489	737	512				
28 / 27	1.2	3.9	1.5	.0														424	425	517	491				
26 / 25	.8	3.3	.5															290	290	500	568				
24 / 23	.6	1.4	.1															128	128	302	346				
22 / 21	1.3	.7	.2															153	150	170	521				
20 / 19	1.5	.8	.1															152	153	138	549				
18 / 17	.6	.5	.1															73	74	92	271				
16 / 15	.2	.4																36	36	43	174				
14 / 13	.3	.2																30	31	40	76				
12 / 11	.4	.2																35	35	39	64				
10 / 9	.2	.2																23	23	25	49				
Element (X)	Σ X ²		Σ X		Σ		Σ		Σ		No. Obs.		Mean No. of Hours with Temperature												
Rel. Hum.													≤ 0 F	≤ 32 F	≤ 67 F	≤ 73 F	≤ 80 F	≤ 93 F	Total						
Dry Bulb																									
Wet Bulb																									
Dew Point																									

FORM 0-26-5 (OL A) REVISION PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE
USAFETAC

PSYCHROMETRIC SUMMARY

YEARS

NOV
MONTH

PAGE 2

ALL

ALL
HOURS (L, S, T.)

FORM
U.S. AIR
0-26-5 (OL A)
REVISED PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

USAFETAC

PSYCHROMETRIC SUMMARY

DEC
MONTH

PAGE 2 UUUU-U2UU
HOURS (L. S. T.)

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAL

PSYCHROMETRIC SUMMARY

176391
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81

YEARS

DEC
MONTH

PAGE 1

0300-0500
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																	TOTAL D.B./W.B.	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	>31		Dry Bulb	Wet Bulb	Dew Point
27 51		.1																1	1		
57 49		.3																2	2	3	3
47 45		.3																2	2		
44 45		.5																2	2	3	3
27 41																				1	
47 39																					1
37 37	.5	1.9																19	19	6	2
37 35	1.0	.9	1.8															29	29	21	11
37 33	1.3	5.2	1.3															61	61	27	21
27 31	.5	6.8	1.5	.4														73	74	66	25
7 29	2.1	6.3	1.4															78	79	70	42
27 27	1.1	5.3	.3															53	54	79	70
27 25	1.8	5.8	.3															62	62	62	52
27 23	1.3	4.7																47	47	76	35
27 21	2.4	4.2	.3															54	55	54	65
27 19	2.6	3.4	.4															51	51	45	82
17 17	1.6	2.6																34	34	40	60
17 15	1.8	3.0																38	38	42	54
17 13	1.9	3.0	.3															41	41	32	37
17 11	2.3	1.3																28	28	41	33
7 7	1.1	1.4																20	20	17	34
7 7	1.6	1.5																25	26	26	33
7 5	.9	1.5																19	19	23	20
4 3	.6	1.3																15	15	11	22
7 1	1.0	.1																9	9	16	18
7 -1	1.4																	11	11	11	15
-27 -3	.4																	7	7	7	13
-27 -5	.5																	4	4	4	11
-27 -7	.3																	2	2	2	6
-27 -9	.5																	4	4	4	10
-17 -11	.3																	2	2	2	5
-17 -13																		2	2	2	5
-17 -15	.3																	2	2	2	4
-17 -17	...																				1
Element (X)	Σ X		Σ X		Σ		Σ		No. Obs.		Mean No. of Hours with Temperature						Total				
Rel. Hum.											≤ 0 F	≤ 32 F	≤ 67 F	≤ 73 F	≤ 80 F	≤ 93 F					
Dry Bulb																					
Wet Bulb																					
Dew Point																					

FORM 0-26-S (OL A) REPRODUCED BY THE GOVERNMENT PRINTING OFFICE

USAFETAC

PSYCHROMETRIC SUMMARY

12639U
STATION

PHILIPS-COLLINS/ALPENA MI
STATION NAME

73-81

YEARS

DEC
MONTH

PAGE 2 0500-0500
HOURS (L. S. T.)

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAL

PSYCHROMETRIC SUMMARY

126390
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

YEARS

U.S.C.
MONTH

PAGE 1

0600-0600
HOURS (L. S. Y.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																				TOTAL D.B./W.B.	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31	Dry Bulb	Wet Bulb	Dew Point				
2/ 51		.4																		3	3	2		
3/ 49																				3	3	1	3	
4/ 45		.4																		2	2	2	1	
4/ 43		.1	.1																	1	1	1	2	
4/ 41		.1																		2	2	3	2	
4/ 39		.2																		11	11	6	4	
3/ 37	.6	.7																		26	26	17	12	
3/ 35	.9	1.5	.9																	64	64	28	17	
3/ 33	1.6	5.9	.4																	87	87	67	36	
2/ 31	1.5	7.5	2.5	.4																60	61	74	52	
2/ 29	1.3	4.7	1.3																	63	63	73	49	
2/ 27	2.1	4.8	.9																	75	75	69	67	
2/ 25	2.1	6.5	.6																	41	41	78	39	
2/ 23	2.0	3.1																		53	54	60	67	
2/ 21	2.9	3.6																		51	53	47	76	
1/ 19	3.4	2.6	.2																	34	34	33	63	
1/ 17	2.0	2.1	.1																	50	50	38	47	
1/ 15	1.1	4.9	.1																	43	43	49	30	
1/ 13	2.3	2.9																		22	22	36	47	
1/ 11	1.3	1.2	.1																	25	25	22	40	
1/ 9	1.4	1.8																		25	25	27	25	
1/ 7	.9	.7																		13	13	18	20	
1/ 5	.9	.9																		14	14	16	22	
1/ 3	.7	.6																		11	12	10	19	
1/ -1	1.0	.1																		9	9	9	19	
-2/ -3	.5	.1																		5	5	6	10	
-4/ -5	.4	.2																		9	9	8	8	
-6/ -7	.1																			1	1	2	7	
-8/ -9	.5																			4	4	4	5	
-10/-11	.4																			3	3	3	9	
-12/-13	.1																			1	1	1	4	
-14/-15	.2																			2	2	2	3	
-16/-17	.2																			2	2	2	6	
Element (X)	Σ x'		Σ x		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ	
Rel. Hum.																								
Dry Bulb																								
Wet Bulb																								
Dew Point																								

FORM 0-26-5 (OL A) REVISED PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

USAFETAC

PSYCHROMETRIC SUMMARY

16054U
STATION

PHILIPS-COLLINS/ALPENA MI
STATION NAME

73-81

DEC
MONTH

PAGE 4

0600-0600
HOURS (L. S. T.)

[illegible]

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAL

PSYCHROMETRIC SUMMARY

72639U PHELPS-COLLINS/ALPENA MI

73-81

UEC

STATION

STATION NAME

YEARS

MONTH

PAGE 1 0900-1100
HOURS (L. S. Y.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																							TOTAL D.B./W.B.	TOTAL	
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	Dry Bulb	Wet Bulb	Dew Point						
4/ 53		.2		.1														3	3	1	1					
2/ 51		.1																1	1	1	1					
5/ 49			.1															1	1	1	1					
4/ 47																										
4/ 45		.2																2	2							
4/ 43			.2															2	2	2	2					
2/ 41		.4	.2															5	5	1	2					
4/ 39		.1	.1	.1														3	3	6	3					
3/ 37	1.5	1.4	.5															27	27	13	7					
3/ 35	1.7	2.4	1.7	.1														40	40	21	19					
3/ 33	1.6	4.0	1.2	.2														57	57	49	21					
2/ 31	1.2	6.5	3.5	.4														93	93	54	50					
5/ 29	1.5	5.7	1.2															68	69	86	25					
2/ 27	1.9	4.6	.7															58	58	81	51					
2/ 25	1.7	5.6	1.1															68	69	61	81					
2/ 23	2.2	3.5	.2															48	48	73	56					
2/ 21	3.2	2.7	.4															51	52	56	70					
2/ 19	3.0	4.0																56	56	54	67					
15/ 17	1.1	3.5	.2															39	39	41	62					
10/ 15	1.6	3.9	.1															45	45	45	45					
14/ 13	1.9	1.9																30	31	38	48					
12/ 11	1.5	2.4	.1															52	52	51	34					
11/ 9	.7	1.1	.1															16	16	19	35					
8/ 7	.7	1.6																19	19	20	22					
7/ 5	.2	.7																8	8	13	18					
4/ 3	.7	.4																9	9	11	15					
2/ 1	.2	.4																5	5	4	19					
1/ -1	.8																	5	5	7	14					
-1/ -3	.4																	3	3	3	11					
-4/ -5	.6																	5	5	5	5					
-6/ -7	.1																	1	1	1	7					
-2/ -9	.2																	2	2	2	6					
-10/ -11	.1																	1	1	1	4					
-11/ -13	.1																	1	1	1	2					
Element (X)	Σ X ²		Σ X		X	No. Obs.		Mean No. of Hours with Temperature						Total												
Rel. Hum.								≤ 0 F	≤ 32 F	≤ 67 F	≤ 73 F	≤ 90 F	≥ 93 F													
Dry Bulb																										
Wet Bulb																										
Dew Point																										

FORM 0-26-S (OL A) REVISION PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE
USAFETAC

PSYCHROMETRIC SUMMARY

120390 PHelps-COLLINS/ALPENA MI
STATION STATION NAME

73-81

DEC
MONTH

PAGE 2 0900-1100
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																				TOTAL	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	D.B./W.B.	Dry Bulb	Wet Bulb	Dew Point			
-14/-15																					2			
-15/-17																					1			
-17/-19																					1			
TOTAL	24.7	57.2	12.1	1.0															804	808	804			
																			804	804				

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PSYCHROMETRIC SUMMARY

70639U
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81
YEARS

YEARS

DEC
MONTH

PAGE 1 1200-1400
HOURS

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																					TOTAL		TOTAL	
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31	D.B. W.B.	Dry Bulb	Wet Bulb	Dew Point				
64/ 61				.1														1	1						
59/ 59			.1															1	1						
54/ 53		.1																1	1		2				
52/ 51		.2																3	3		2				
50/ 49			.1															2	2		1				
47/ 47				.1														1	1		1				
47/ 45			.1	.1	.1													3	3		1				
44/ 43			.2	.2														4	4		2				
42/ 41	.2	.1	.6	.6	.1	.1												15	15		5				
40/ 39	.5	.5	.6	.9														20	20		3				
37/ 37	1.1	2.3	.7	.7	.5													44	44		11				
37/ 35	.7	3.6	2.6	.7														64	64		9				
37/ 33	.9	4.1	4.1	.4														76	76		36				
32/ 31	.6	5.9	3.7	.9														90	90		42				
31/ 29	.9	4.3	2.2															60	60		33				
27/ 27	1.4	4.9	3.0															75	75		69				
26/ 25	1.1	4.8	2.0															64	64		83				
24/ 23	.9	4.0	1.1															52	52		45				
22/ 21	.5	4.8	2.1															63	63		53				
19/ 19	.4	7.7	.9															73	73		75				
17/ 17		2.5	1.6															33	33		52				
15/ 15	.1	2.3	.5															24	24		59				
14/ 13	.1	2.2	.2															21	21		53				
11/ 11	.1	1.6																14	14		44				
10/ 9		1.5																12	12		30				
7/ 7		.9																7	7		20				
6/ 5		.7																6	6		20				
4/ 3		.1																1	1		13				
1/ 1		.2																2	2		21				
1/ -1																					7				
-1/ -3																					11				
-4/ -5																					2				
-5/ -7																					4				
Element (X)	Σx ²		Σx		X	C _x		No. Obs.		Mean No. of Hours with Temperature						Total									
Rel. Hum.										≤ 0 F	≤ 32 F	≤ 47 F	≤ 73 F	≤ 80 F	≤ 93 F	Total									
Dry Bulb																									
Wet Bulb																									
Dew Point																									

USAFETAC FORM 0-26-5 (OL.A) REVISION PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

PSYCHROMETRIC SUMMARY

1657
STATION

HELPS-COLLINS/ALPENA MI
STATION NAME

73-81

YEARS

DEC
MONTH

PAGE 2 1200-1400
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																														TOTAL	TOTAL					
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	≥ 31	D.B./W.B.	Dry Bulb	Wet Bulb	Dew Point	
-1 / -9																																					1
-1 / -22																																				3	
TOTAL	4.05	1.4	20.1	5.2	.1	.1																												813	813	813	
																																			813	813	

PSYCHROMETRIC SUMMARY

126391
STATION

PHelps-COLLINS/ALPENA MI
STATION NAME

73-81

YEARS

DEC
MONTH

PAGE 1 1500-1700
HOURS (L. S. T.)

[illegible]

PSYCHROMETRIC SUMMARY

176390	PHELPS-COLLINS/ALPENA MI
STATION	STATION NAME

73-81

YEARS

DEC

PAGE 2 1500-1700
HOURS (L. S. T.)

[illegible]

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PSYCHROMETRIC SUMMARY

76391 PHELPS-COLLINS/ALPENA MI

73-81

DEC
MONTH

PAGE 1 1800-2000
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																												TOTAL D.B./W.B.		TOTAL	
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	Dry Bulb	Wet Bulb	Dew Point												
21 51		.1																1	1													
20 47		.2	.1															3	3	2												
19 47		.2	.2															4	4	3												
18 45		.1	.1															2	2	1												
14 43	.1	.2	.1															4	4	6												
12 41		.6	.2															7	7	4												
10 37	.1	.5	.6	.4														18	18	11												
9 37	.1	1.5	.6	.2	.2													27	27	12												
8 35	1.1	2.7	1.2		.1													42	42	28												
3 33	.7	5.9	2.0	.1														71	71	49												
2 31	1.8	5.8	3.1	.4														90	91	71												
1 29	1.7	5.1	1.4															66	67	81												
2 27	1.8	4.0	1.5															64	65	76												
2 25	.9	4.7	1.0															53	53	61												
2 23	.5	2.6	.7															31	31	54												
2 21	1.5	4.1	1.0															53	53	46												
1 19	.9	6.9	.1															64	64	49												
1 17		3.7	.2															32	32	52												
1 15	1.5	4.3																47	47	51												
1 13	1.8	3.2	.2															43	43	40												
1 11	1.1	2.5																29	29	36												
1 9	.5	.9																11	11	25												
1 7	.6	1.5																17	17	12												
1 5	.2	1.1																11	11	15												
1 3		.9																7	7	9												
1 1	.2	.4																5	5	6												
1 -1	.5																	4	4	9												
1 -3	.4																	3	3	3												
1 -5	.1																	1	1	1												
1 -7	.1																	1	1	1												
1 -9																																
1 -11																																
TOTAL	19.7	64.2	14.5	1.1	.4													811	814	811												
Element (X)	Σ X'	Σ X	X	%	No. Obs.	Mean No. of Hours with Temperature										Total																
Rel. Hum.	5165545	64055	79.0	11.456	811	≤ 0 F	≤ 32 F	≥ 67 F	≥ 73 F	≥ 80 F	≥ 93 F																					
Dry Bulb	573144	20110	24.7	9.689	814	1.0	72.5																									
Wet Bulb	508673	18827	23.2	9.403	811	1.3	79.7																									
Dew Point	383386	15334	18.9	10.742	811	4.7	86.6																									

USAFETAC FORM 44 0-26-5 (Q.A.) REVISED PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PSYCHROMETRIC SUMMARY

160390
STATION

PHELPS-COLLINS/ALPENA MI
STATION NAME

73-81

YEARS

DEC
MONTH

PAGE 1 2100-2300
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																				TOTAL		TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	>31	D.B./W.B.	Dry Bulb	Wet Bulb	Dew Point				
52/ 51		.1																1	1						
51/ 49		.4																3	3	3	2				
49/ 47		.1																1	1	1	2				
47/ 45																				1	1				
45/ 43		.1																1	1						
43/ 41	.1	.9	.5	.1														13	13	3	2				
41/ 39	.2	.7	.4	.1														12	12	10	4				
39/ 37	1.0	.4	.6															16	16	17	9				
37/ 35	1.4	2.2	1.2	.1														40	40	26	16				
35/ 33	1.0	5.0	2.0															64	65	36	24				
33/ 31	1.5	9.0	2.0															100	100	70	48				
31/ 29	1.4	5.1	1.5															60	62	41	42				
29/ 27	1.6	5.0	1.1															62	62	77	56				
27/ 25	.9	3.9	1.0															46	47	54	70				
25/ 23	.4	4.7	.4															44	44	53	46				
23/ 21	1.6	5.2	.6															60	60	73	33				
21/ 19	1.7	4.9																54	56	41	66				
19/ 17	.6	4.1																22	22	46	67				
17/ 15	1.7	3.7	.1															45	45	32	43				
15/ 13	1.2	2.7	.1															33	33	30	55				
13/ 11	1.2	3.4																37	37	37	39				
11/ 9	1.2	2.1																27	27	41	26				
9/ 7	1.1	1.0																17	18	20	31				
7/ 5	.5	.6																9	10	14	29				
5/ 3	.6	.7																11	11	12	21				
3/ 1	.1	.4																4	4	2	24				
1/ -1	1.0	.2																10	10	10	11				
-1/ -3	.5																	4	4	6	6				
-3/ -5	.2																	2	2	2	6				
-5/ -7	.8																	5	5	5	4				
-7/ -9	.1																	1	1	1	9				
-9/ -11																					9				
-11/ -13																					2				
-13/ -15																					1				
Element (X)	Σ X ²		Σ X		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ		Σ				
Rel. Hum.																									
Dry Bulb																									
Wet Bulb																									
Dew Point																									

FORM 0-26-5 (O.L.A.) REVISÉ PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

USAFETAC

PSYCHROMETRIC SUMMARY

73-81

YEARS

DEC
MONTH

PAGE 2 2100-2300
HOURS (L. S. T.)

[illegible]

USAFETAC
FORM
JUL 64
0-26-5 (OL A)
REVISED PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PSYCHROMETRIC SUMMARY

120390 PHELPS-COLLINS/ALPENA MI

73-81

YEARS

DEC
MONTH

PAGE 1

ALL
HOURS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																				TOTAL D.B./W.B.	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	Dry Bulb	Wet Bulb	Dew Point				
27 01				.0														1	1					
27 59																		1	1					
57 57			.0															3	3					
57 55		.0																1	1	2				
47 53		.0		.1														6	6	5	3			
27 51		.2	.0															13	13	3	3			
57 49	.0	.1	.0															14	14	10	15			
47 47		.1	.0	.1														11	11	14	7			
467 45		.1	.1	.0	.1													17	17	4	6			
447 43	.0	.2	.1	.0	.0													24	24	17	14			
427 41	.1	.3	.3	.2	.0	.0												57	57	27	23			
47 39	.3	.4	.3	.3														84	84	48	29			
37 37	.8	1.4	.5	.2	.2													204	204	112	56			
37 35	1.0	2.2	1.8	.2	.0													332	332	201	108			
347 33	1.2	5.0	2.0	.2	.0													537	538	344	168			
27 31	1.0	6.6	2.7	.5														696	698	550	347			
37 29	1.4	5.1	1.9															540	550	640	347			
27 27	1.4	4.8	1.4	.0														491	494	611	461			
27 25	1.3	5.1	1.0															476	478	527	524			
27 23	1.1	3.4	.6															328	328	520	335			
27 21	2.0	4.3	.7															447	450	455	439			
27 19	1.9	5.1	.4															478	483	387	587			
17 17	.8	2.9	.3															263	263	384	483			
17 15	1.1	3.4	.3															309	309	297	410			
17 13	1.3	2.6	.1															273	275	292	382			
17 11	1.2	1.8	.0															197	197	251	316			
17 9	.9	1.5	.0															157	157	188	289			
7 7	.9	1.3																139	141	154	211			
7 5	.5	.9																88	89	112	156			
7 3	.5	.6																69	69	81	156			
7 1	.4	.4																49	51	53	108			
7 -1	.6	.0																44	47	51	102			
-7 -3	.4	.0																28	28	31	75			
-47 -5	.3	.0																22	22	21	48			
Element (X)	Σ x²		Σ x		x̄		σ _x		No. Obs.		Mean No. of Hours with Temperature										Total			
Rel. Hum.											± 0 F		± 32 F		± 67 F		± 73 F		± 80 F		± 93 F		Total	
Dry Bulb																								
Wet Bulb																								
Dew Point																								

USAFETAC FORM 0-26-5 (OL A) REVERSED PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

PSYCHROMETRIC SUMMARY

73-81

DEC
MONTH

PAGE 2

ALL
MS (L. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																				TOTAL	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	D.B./W.B.	Dry Bulb	Wet Bulb	Dew Point			
-1/-1	.2																	16	16	17	46			
-2/-2	.2																	13	13	13	45			
-10/-11	.1																	7	7	7	35			
-12/-13	.0																	2	2	2	15			
-14/-15	.1																	5	5	5	16			
-16/-17	.0																	2	2	2	11			
-18/-19																					8			
101st	23.359	814.8	1.7	.5	.0														6444		6444			
																		6444		6444				

PSYCHROMETRIC SUMMARY

YEARS

ALL
LOTTING

ALL

HOURS (L, S, T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																				TOTAL D.B./W.B.	TOTAL					
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	Dry Bulb	Wet Bulb	Dew Point							
61/91											.0	.0	.0	.0				10	10								
66/95											.0	.0	.0	.0				9	9								
74/93										.0	.0	.0	.0	.0				17	17								
77/91							.0	.0	.0	.0	.0	.0	.0	.0	.0			47	47								
77/89					.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0			91	91								
81/81					.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0			175	175								
86/85				.0	.0	.0	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0		311	311								
87/83				.0	.0	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0		492	492								
87/81			.0	.0	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0			577	577								
77/79		.0	.0	.1	.1	.2	.2	.2	.2	.1	.1	.0	.0	.0	.0			806	806								
77/77		.0	.0	.1	.1	.2	.2	.2	.2	.1	.0	.0	.0	.0	.0			879	880								
76/75		.0	.1	.1	.3	.2	.2	.2	.1	.1	.0	.0	.0	.0	.0			1088	1088								
74/73		.0	.1	.3	.3	.3	.3	.3	.2	.1	.0	.0	.0	.0	.0			1331	1332								
72/71	.0	.1	.3	.3	.3	.3	.3	.3	.2	.1	.0	.0	.0	.0	.0			1437	1441								
71/69	.0	.2	.4	.4	.3	.3	.2	.2	.1	.0	.0	.0	.0	.0	.0			1653	1655								
67/67	.1	.3	.6	.4	.3	.3	.3	.2	.1	.0	.0	.0	.0	.0	.0			1881	1882								
67/65	.1	.6	.6	.5	.4	.2	.2	.1	.1	.0	.0	.0	.0	.0	.0			2177	2177								
64/65	.1	.9	.6	.4	.4	.2	.2	.1	.1	.0	.0	.0	.0	.0	.0			2393	2395								
62/61	.2	.9	.5	.3	.3	.2	.2	.1	.0	.0	.0	.0	.0	.0	.0			2528	2529								
61/59	.2	1.0	.7	.4	.3	.2	.2	.1	.0	.0	.0	.0	.0	.0	.0			2537	2540								
57/57	.2	1.1	.7	.4	.3	.2	.2	.1	.0	.0	.0	.0	.0	.0	.0			2480	2481								
55/55	.2	1.1	.8	.4	.3	.2	.1	.1	.0	.0	.0	.0	.0	.0	.0			2469	2470								
53/53	.2	1.2	.6	.4	.2	.2	.1	.1	.0	.0	.0	.0	.0	.0	.0			2342	2342								
52/51	.2	1.1	.7	.3	.3	.2	.1	.0	.0	.0	.0	.0	.0	.0	.0			2346	2350								
50/49	.3	1.0	.7	.3	.3	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0			2217	2218								
47/47	.3	1.1	.5	.4	.4	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0			2176	2178								
47/45	.2	1.2	.6	.5	.3	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0			2196	2198								
47/43	.2	1.3	.7	.5	.2	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0			2350	2355								
42/41	.3	1.2	.8	.5	.2	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0			2362	2364								
41/39	.3	1.2	.9	.4	.	.	.	.	.	.	.	.	.	.	.			2506	2508	
39/37	.4	1.3	.7	.4	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0			2350	2353								
37/35	.6	1.5	1.0	.3	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0			2637	2642								
34/33	.8	2.0	1.0	.3	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0			3134	3139								
32/31	.8	2.8	1.3	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0			3986	3993								
Element (X)	Σ x ²				Σ x				Σ				Σ				No. Obs.				Mean No. of Hours with Temperature						
Rel. Hum.																					≤ 0 F	≤ 32 F	≥ 67 F	≥ 73 F	≥ 80 F	≥ 93 F	Total
Dry Bulb																											
Wet Bulb																											
Dew Point																											

C
2
C

2C

ALL
MONTN

ALL
HOURS (L. S. T.)

USAFETAC
FOCUS
0.26-5 (OLA)
REMOVING NERVOUS SYSTEMS FROM ACES AND CASCADING

PSYCHROMETRIC SUMMARY

ALL
MONTH

ALL
HOURS (L. S. T.)

[illegible]

USAFETAC FORM 0-26-5 (OL A) REVISED PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE JAN 64

LOCAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

MEANS AND STANDARD DEVIATIONS

WET-BULB TEMPERATURES DEG F FROM HOURLY OBSERVATIONS

7-6390 PHELPS-COLLINS/ALPENA MI

73-81

STATION

STATION NAME

YEARS

MRS (LST)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
MEAN	16.6	16.0	27.2	36.2	45.7	53.9	59.8	58.8	51.3	42.1	33.8	22.6	38.8
S D	12.079	12.972	10.546	9.626	9.403	8.335	7.239	7.601	9.287	8.924	9.783	10.347	17.949
TOTAL OBS	815	742	820	785	813	791	805	814	784	806	784	805	9562
MEAN	16.0	14.8	26.0	34.8	43.7	52.4	57.5	57.0	50.2	40.9	33.0	22.0	37.5
S D	12.648	13.711	11.015	9.986	9.185	8.800	7.471	7.850	9.355	9.008	9.594	10.557	17.777
TOTAL OBS	803	747	820	791	816	793	820	798	791	806	788	800	9573
MEAN	15.4	14.2	25.4	36.2	48.0	57.3	61.9	59.6	51.4	40.9	32.5	21.8	38.8
S D	12.090	14.009	11.510	9.900	9.317	8.460	7.012	7.654	9.062	8.738	9.743	10.777	19.199
TOTAL OBS	821	752	824	799	818	789	808	810	792	818	790	820	9641
MEAN	17.7	18.9	31.0	43.5	57.4	66.4	72.0	69.6	59.5	47.7	36.4	23.8	45.4
S D	11.199	11.764	10.295	11.140	11.149	9.201	6.949	6.551	8.417	8.694	9.858	9.827	21.287
TOTAL OBS	816	751	816	793	818	793	815	812	779	815	784	808	9600
MEAN	22.1	24.1	35.2	47.5	61.6	70.5	76.4	74.1	64.0	52.1	40.5	27.5	49.7
S D	9.542	10.644	10.235	12.083	12.185	9.987	7.625	7.199	9.175	9.788	10.864	8.655	21.378
TOTAL OBS	811	750	819	791	820	792	821	809	792	813	781	813	9614
MEAN	22.3	24.6	35.9	47.6	61.1	70.0	76.5	74.0	63.7	51.7	39.7	27.3	49.7
S D	9.464	10.483	10.144	11.783	11.473	9.416	7.505	7.411	9.146	9.722	10.585	8.850	21.124
TOTAL OBS	814	741	818	794	820	791	821	815	787	819	786	808	9614
MEAN	19.0	20.9	32.3	43.5	56.5	65.9	72.1	68.9	58.0	46.3	35.4	24.7	45.4
S D	10.318	11.058	9.560	10.567	10.351	8.489	7.073	6.962	8.912	8.800	9.377	9.689	20.442
TOTAL OBS	818	740	818	793	825	795	812	814	791	816	786	814	9622
MEAN	17.5	17.8	29.0	38.4	49.2	57.7	63.7	61.7	53.1	43.4	33.9	23.6	40.9
S D	11.121	12.440	9.730	9.569	9.142	7.775	6.758	6.969	8.720	8.948	9.496	10.191	18.442
TOTAL OBS	818	745	823	795	818	793	820	812	793	822	792	812	9641
MEAN	18.3	18.9	30.3	41.0	52.9	61.7	67.5	65.5	56.4	45.6	35.6	24.1	43.3
S D	11.457	12.771	11.055	11.679	12.258	11.124	10.127	9.778	10.444	10.027	10.307	10.090	20.290
TOTAL OBS	8514	5968	6558	6341	6548	6337	6522	6484	6309	6515	6291	6480	76867

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

MEANS AND STANDARD DEVIATIONS

WET-BULB TEMPERATURES DEG F FROM HOURLY OBSERVATIONS

STATION PHELPS-COLLINS/ALPENA MI

73-81

STATION

STATION NAME

YEARS

HRS (LST)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
MEAN	15.6	14.8	25.7	33.5	42.6	51.4	57.1	56.5	49.2	40.0	32.0	21.5	36.8
S D	11.712	12.598	10.189	8.962	8.860	7.510	6.614	7.000	8.783	8.312	9.195	9.921	17.221
TOTAL OBS	808	740	819	784	813	791	804	814	782	804	783	795	9537
MEAN	15.1	13.9	24.7	32.5	41.3	50.3	55.6	55.2	48.4	39.1	31.4	20.9	35.8
S D	12.296	13.537	10.603	9.346	8.666	7.994	6.860	7.334	8.845	8.529	9.122	10.210	17.188
TOTAL OBS	802	744	818	789	815	793	818	798	790	804	786	795	9552
MEAN	14.6	13.5	24.2	33.6	44.5	53.7	58.7	57.3	49.5	39.2	31.0	20.8	36.8
S D	12.317	13.684	11.173	9.102	8.511	7.350	6.065	7.010	8.526	8.351	9.381	10.463	18.213
TOTAL OBS	815	747	821	797	817	788	807	810	792	818	788	815	9615
MEAN	16.0	17.6	28.4	37.9	49.5	58.3	63.5	62.8	54.5	43.8	34.0	22.6	40.4
S D	10.820	11.354	9.642	9.138	8.932	7.184	5.502	5.577	7.484	7.981	9.180	9.497	18.567
TOTAL OBS	814	748	816	793	818	792	813	810	778	814	783	804	9583
MEAN	20.1	21.6	31.1	40.0	51.3	59.7	64.8	64.1	56.0	45.9	36.2	25.2	43.1
S D	9.097	9.992	9.115	9.272	9.045	6.983	5.708	5.882	7.593	8.328	9.126	8.286	17.722
TOTAL OBS	810	746	818	790	818	791	821	809	791	809	780	815	9598
MEAN	20.0	21.8	31.5	40.0	51.0	59.3	64.7	64.1	55.7	45.5	35.7	25.1	43.0
S D	8.965	9.792	8.909	9.000	8.778	6.732	5.677	5.781	7.442	8.311	9.013	8.415	17.545
TOTAL OBS	812	740	816	794	820	791	820	815	786	818	784	807	9608
MEAN	17.5	19.0	29.2	37.7	48.7	57.6	63.2	62.1	53.2	42.6	33.1	23.2	40.7
S D	9.959	10.879	8.909	8.714	8.556	6.714	5.789	5.779	7.812	8.291	8.894	9.483	17.898
TOTAL OBS	816	736	816	793	824	795	812	813	791	816	786	811	9609
MEAN	16.2	16.5	27.1	35.0	44.9	53.9	59.7	58.7	50.4	40.9	31.9	22.4	38.3
S D	10.742	12.048	9.404	8.657	8.599	6.976	6.126	6.368	8.228	8.351	9.063	9.870	17.389
TOTAL OBS	811	744	823	795	818	793	819	812	793	820	790	804	9622
MEAN	17.0	17.3	27.8	36.3	46.7	55.5	60.9	60.1	52.1	42.1	33.1	22.7	39.4
S D	10.984	12.150	10.110	9.449	9.457	7.963	6.939	7.197	8.599	8.689	9.290	9.663	17.923
TOTAL OBS	6488	5747	6547	6335	6593	6334	6514	6481	6303	6503	6280	6004	76719
ALL HOURS													

GLOBAL CLIMATOLOGY BRANCH
AFETAC
WEATHER SERVICE/AL

MEANS AND STANDARD DEVIATIONS

DEW-POINT TEMPERATURES DEG F FROM HOURLY OBSERVATIONS

39 PHELPS-COLLINS/ALPENA MI 73-81
STATION STATION NAME YEARS

HRS (LST)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	
0-02	MEAN S D TOTAL OBS	10.8 13.27414.40212.00610.64810.097 808	9.7 14.40212.00610.64810.097 740	21.6 12.00610.64810.097 819	28.8 10.64810.097 784	38.9 10.097 813	49.3 7.678 791	55.3 6.851 804	55.0 7.063 814	47.3 9.063 782	37.2 9.062 804	28.6 9.96411.004 783	17.8 11.004 795	33.5 18.703 9537
0-05	MEAN S D TOTAL OBS	10.6 13.75814.93712.14810.858 802	9.2 14.93712.14810.858 744	21.0 12.14810.858 818	28.4 10.858 789	38.3 9.516 815	48.5 8.024 793	54.2 6.876 818	53.9 7.381 798	46.9 9.018 790	36.7 9.238 804	28.2 9.99711.218 786	17.2 11.218 795	32.9 18.629 9552
1-18	MEAN S D TOTAL OBS	10.3 13.71915.21612.63310.522 815	9.1 15.21612.63310.522 747	20.6 12.63310.522 821	29.2 10.522 797	40.5 9.489 817	50.9 7.656 788	56.5 6.335 807	55.7 7.825 810	48.0 8.666 792	36.8 9.11510.33511.566 818	28.1 10.33511.566 788	17.3 11.566 815	33.7 19.371 9615
-11	MEAN S D TOTAL OBS	12.0 12.47013.12411.78210.86710.812 814	12.4 13.12411.78210.86710.812 748	22.8 11.78210.86710.812 816	30.0 10.86710.812 793	41.5 10.812 818	52.2 8.185 792	58.1 7.088 813	58.2 6.918 810	50.3 8.651 778	39.2 9.27710.11710.755 814	30.1 10.11710.755 783	18.8 10.755 804	35.6 19.129 9583
1-14	MEAN S D TOTAL OBS	13.6 11.41212.40011.76711.48311.240 810	14.0 12.40011.76711.48311.240 748	23.1 11.76711.48311.240 818	29.9 11.48311.240 790	41.3 11.240 818	51.9 8.330 791	57.5 7.906 821	57.7 7.933 809	49.4 9.405 791	39.0 9.927 809	30.1 9.83010.057 780	20.0 10.057 813	35.7 18.566 9598
1-17	MEAN S D TOTAL OBS	12.7 11.58512.66911.79211.81511.389 812	13.5 12.66911.79211.81511.389 740	23.2 11.79211.81511.389 816	29.4 11.81511.389 794	40.9 11.389 820	51.5 8.684 791	57.0 8.189 820	57.6 7.853 815	49.1 9.23110.14110.12110.177 786	38.5 10.14110.12110.177 818	29.4 10.12110.177 784	19.6 10.177 807	35.3 18.702 9603
-20	MEAN S D TOTAL OBS	11.8 11.83213.26211.76911.52411.172 810	12.4 13.26211.76911.52411.172 736	22.7 11.76911.52411.172 816	29.1 11.52411.172 793	40.3 11.172 824	51.2 8.557 795	57.2 7.946 812	57.5 7.448 815	49.0 8.763 791	38.2 9.71610.19310.742 816	28.8 10.19310.742 786	18.9 10.742 811	34.9 18.937 9609
1-23	MEAN S D TOTAL OBS	11.2 12.33914.22711.57610.67010.419 811	11.1 14.22711.57610.67010.419 744	22.4 11.57610.67010.419 823	29.3 10.67010.419 795	40.1 10.419 818	50.6 7.666 793	56.8 6.941 819	56.5 6.786 812	48.0 8.770 793	37.6 9.31210.06411.090 820	28.4 10.06411.090 790	18.5 11.090 804	34.4 18.831 9622
ALL HOURS	MEAN S D TOTAL OBS	11.6 12.60413.92511.96611.06210.589 6488	11.4 13.92511.96611.06210.589 5947	22.2 11.96611.06210.589 6547	29.2 11.06210.589 6335	40.2 10.589 6543	50.8 8.187 6334	56.6 7.383 6514	56.5 7.444 6401	48.5 9.009 6303	37.9 9.51610.10110.870 6503	29.0 10.10110.870 6280	18.5 10.870 6444	34.5 18.885 76719

RELATIVE HUMIDITY

JAN
MONT

MONTH	HOURS (L.S.T.)	PERCENTAGE FREQUENCY OF RELATIVE HUMIDITY GREATER THAN									MEAN RELATIVE HUMIDITY	TOTAL NO. OF OBS.
		10%	20%	30%	40%	50%	60%	70%	80%	90%		
JAN	0-02	100.0	100.0	99.9	99.4	98.9	93.2	72.9	43.5	19.3	70.5	509
	3-05	100.0	100.0	100.0	99.9	98.5	95.1	75.4	45.0	20.5	79.5	602
	6-08	100.0	100.0	100.0	100.0	99.3	95.2	78.2	47.2	23.9	80.5	815
	9-11	100.0	100.0	100.0	99.8	98.4	91.5	74.7	49.4	21.3	79.1	814
	12-14	100.0	100.0	100.0	99.3	92.0	73.0	49.9	25.2	9.5	70.5	810
	15-17	100.0	100.0	100.0	97.2	87.7	64.8	41.0	19.7	7.4	67.4	812
	18-2	100.0	100.0	100.0	99.5	96.3	84.1	60.4	30.8	12.7	74.1	616
	3-23	100.0	100.0	100.0	99.8	98.5	91.5	69.5	37.2	16.6	77.0	611
TOTALS		100.0	100.0	100.0	99.4	96.2	86.1	65.3	30.0	16.4	75.0	5488

RELATIVE HUMIDITY

FEB

MONITORING

MONTH	HOURS (L.S.T.)	PERCENTAGE FREQUENCY OF RELATIVE HUMIDITY GREATER THAN									MEAN RELATIVE HUMIDITY	TOTAL NO. OF OBS.
		10%	20%	30%	40%	50%	60%	70%	80%	90%		
FEB.	0-12	100.0	100.0	99.9	99.6	98.4	89.7	68.6	37.0	17.1	76.3	740
	13-25	100.0	100.0	100.0	100.0	99.2	93.5	73.8	41.8	21.2	74.4	744
	26-28	100.0	100.0	100.0	100.0	98.8	95.9	77.9	46.2	25.2	83.5	747
	29-11	100.0	100.0	99.7	99.3	96.9	87.0	67.6	39.2	18.6	76.5	749
	12-14	100.0	100.0	99.5	97.5	83.4	60.8	37.0	19.7	9.6	66.5	749
	15-17	100.0	100.0	99.2	93.9	75.7	53.2	35.0	16.4	5.9	63.9	740
	18-20	100.0	100.0	100.0	98.0	90.2	73.5	48.2	27.4	17.5	70.5	736
	21-23	100.0	100.0	100.0	99.5	95.2	84.8	64.0	37.6	14.4	75.6	744
TOTALS		100.0	100.0	99.8	98.5	92.2	79.8	59.0	33.7	16.2	73.6	5947

FORM
FD-36

0-87-5 (OL A)

RELATIVE HUMIDITY

5. **2. 2. 2.**

MONTH	HOURS (L.S.T.)	PERCENTAGE FREQUENCY OF RELATIVE HUMIDITY GREATER THAN									MEAN RELATIVE HUMIDITY	TOTAL NO. OF OBS.
		10%	20%	30%	40%	50%	60%	70%	80%	90%		
MAY	0-02	100.0	100.0	100.0	99.3	96.6	90.4	76.1	54.2	28.2	81.2	419
	03-05	100.0	100.0	100.0	99.8	97.8	92.6	80.3	60.8	29.7	81.6	518
	06-08	100.0	100.0	100.0	100.0	98.7	93.4	81.1	62.9	34.0	82.6	621
	09-11	100.0	100.0	99.9	98.3	90.0	74.8	54.9	37.6	17.8	72.9	816
	12-14	100.0	100.0	97.9	91.0	72.4	52.6	34.5	20.0	9.3	63.5	818
	15-17	100.0	100.0	97.1	86.6	69.7	51.5	33.5	20.2	9.2	62.2	816
	18-20	100.0	100.0	98.3	93.8	84.2	69.4	50.7	32.6	13.5	69.7	816
	21-23	100.0	100.0	100.0	98.8	94.0	85.2	70.1	46.7	21.9	77.2	625
TOTALS		100.0	100.0	99.2	96.0	87.9	76.3	60.2	41.9	20.5	73.8	6547

RELATIVE HUMIDITY

222

STATION

STATION NAME

PERIOD

MONTH

MONTH	HOURS (L.S.T.)	PERCENTAGE FREQUENCY OF RELATIVE HUMIDITY GREATER THAN									MEAN RELATIVE HUMIDITY	TOTAL NO. OF OBS.
		10%	20%	30%	40%	50%	60%	70%	80%	90%		
"	0-02	100.0	100.0	100.0	98.9	95.2	81.5	63.4	43.4	21.2	75.4	784
	3-05	100.0	100.0	100.0	99.6	95.7	84.9	69.6	52.0	26.2	73.4	785
	6-08	100.0	100.0	100.0	99.2	94.3	82.4	66.2	47.6	23.3	76.2	797
	9-11	100.0	100.0	98.1	85.0	66.1	46.3	30.5	21.7	11.5	61.0	793
	12-14	100.0	99.6	87.7	67.7	49.2	33.7	23.2	15.6	7.2	54.2	790
	15-17	100.0	98.4	84.4	64.5	47.6	35.0	24.6	16.3	8.7	53.2	794
	18-20	100.0	99.5	92.9	79.8	61.4	47.3	32.0	23.0	13.2	51.0	793
	21-23	100.0	100.0	99.6	96.9	86.0	70.6	50.1	30.9	15.5	71.6	798
TOTALS		100.0	99.7	95.4	86.5	74.2	60.2	45.1	32.2	15.4	56.2	5335

USAFETAC FORM 0-87-5 (OL A)
JUL 64

CLIMATE SERVICE/MAO

RELATIVE HUMIDITY

STATION PHILIPS-COLLINS/ALPENA MI

73-P1

VEY

STATION

STATION NAME

PERIOD

MONTH

CUMULATIVE PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

MONTH	HOURS (LST)	PERCENTAGE FREQUENCY OF RELATIVE HUMIDITY GREATER THAN									MEAN RELATIVE HUMIDITY	TOTAL NO OF OBS
		10%	20%	30%	40%	50%	60%	70%	80%	90%		
1-1	1-10	100.0	100.0	99.8	98.6	94.7	87.9	75.2	60.8	40.4	21.4	813
1-11	1-20	100.0	100.0	100.0	99.8	97.4	94.0	83.1	68.2	48.3	31.9	815
1-12	1-31	100.0	100.0	100.0	98.9	93.9	84.5	67.4	48.5	30.0	16.8	817
1-13	1-11	100.0	99.9	95.1	79.6	61.4	41.8	26.3	15.5	6.2	55.3	819
1-14	1-10	100.0	98.2	86.6	63.3	43.6	26.8	17.0	10.6	3.9	51.7	811
1-15	1-17	100.0	98.5	87.6	62.7	42.2	27.8	19.0	11.7	4.9	51.1	821
1-16	1-20	100.0	99.8	93.3	78.3	58.6	39.9	26.6	15.2	5.3	57.9	829
1-17	1-23	100.0	100.0	99.6	96.8	89.0	76.7	55.4	33.5	15.5	72.5	814
1-18												
1-19												
1-20												
1-21												
1-22												
1-23												
TOTALS		100.0	99.6	95.1	84.3	72.6	59.9	46.3	30.6	17.2	65.9	5543

USAFETAC

FORM
JUL 64

0-87-5 (OL A)

RELATIVE HUMIDITY

54
STATIC

PHILIPS-COLLINS/ALFENA MI

73-91

JUL
MON

**CUMULATIVE PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)**

MONTH	HOURS (L.S.T.)	PERCENTAGE FREQUENCY OF RELATIVE HUMIDITY GREATER THAN									MEAN RELATIVE HUMIDITY	TOTAL NO. OF OBS.
		10%	20%	30%	40%	50%	60%	70%	80%	90%		
1-7	0-02	100.0	100.0	100.0	100.0	98.9	97.2	89.9	71.4	32.5	24.9	791
	3-05	100.0	100.0	100.0	100.0	100.0	97.5	92.8	82.0	40.4	27.2	793
	6-06	100.0	100.0	100.0	100.0	99.1	90.5	76.5	52.9	24.5	20.5	788
	9-11	100.0	100.0	99.6	93.6	72.0	50.5	29.5	14.9	5.4	62.3	792
	12-14	100.0	100.0	97.1	76.4	51.1	31.2	17.7	9.2	3.8	54.3	791
	15-17	100.0	100.0	94.3	72.7	51.3	32.5	21.1	11.4	4.2	54.4	791
	18-20	100.0	100.0	98.9	88.1	67.7	46.9	31.5	16.6	6.9	61.0	795
	1-23	100.0	100.0	100.0	99.6	97.9	89.2	73.1	44.0	15.5	78.2	793
TOTALS		100.0	100.0	98.7	91.3	79.8	66.9	54.0	37.8	16.5	71.4	6334

RELATIVE HUMIDITY

444

MONTH

MONTH	HOURS (L.S.T.)	PERCENTAGE FREQUENCY OF RELATIVE HUMIDITY GREATER THAN									MEAN RELATIVE HUMIDITY	TOTAL NO OF OBS.
		10%	20%	30%	40%	50%	60%	70%	80%	90%		
JUL	00-02	100.0	100.0	100.0	100.0	99.6	96.3	91.4	67.7	35.3	35.7	804
	03-05	100.0	100.0	100.0	100.0	100.0	99.8	95.7	80.9	46.6	33.8	818
	06-08	100.0	100.0	100.0	100.0	99.9	95.8	82.8	61.0	30.1	33.0	807
	09-11	100.0	100.0	99.8	95.2	78.2	52.4	29.9	15.7	4.4	30.2	813
	12-14	100.0	100.0	95.4	78.7	53.1	30.6	16.7	5.1	2.3	54.2	821
	15-17	100.0	100.0	94.8	76.5	47.2	31.0	17.1	9.5	2.9	51.4	820
	18-20	100.0	100.0	98.6	89.7	70.1	47.2	29.9	17.1	4.3	61.5	812
	21-23	100.0	100.0	100.0	100.0	98.4	90.4	74.6	46.5	15.7	79.0	819
TOTALS		100.0	100.0	98.6	92.5	80.8	63.2	54.5	35.6	18.1	71.1	6514

RELATIVE HUMIDITY

ALL

**CUMULATIVE PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)**

MONTH	HOURS (L.S.T.)	PERCENTAGE FREQUENCY OF RELATIVE HUMIDITY GREATER THAN									MEAN RELATIVE HUMIDITY	TOTAL NO. OF OBS.
		10%	20%	30%	40%	50%	60%	70%	80%	90%		
JUN	00-02	100.0	100.0	100.0	100.0	100.0	99.1	93.2	74.5	59.9	87.6	814
	03-05	100.0	100.0	100.0	100.0	100.0	99.7	98.4	88.0	47.7	89.4	798
	06-08	100.0	100.0	100.0	100.0	99.9	99.6	94.0	76.7	40.9	87.5	810
	09-11	100.0	100.0	100.0	99.0	87.7	65.9	42.3	23.8	7.4	68.5	810
	12-14	100.0	100.0	99.3	86.5	61.9	40.2	23.4	12.7	3.2	58.5	809
	15-17	100.0	100.0	98.3	85.4	63.7	41.0	25.4	13.3	3.2	55.7	815
	18-20	100.0	100.0	99.9	95.9	84.1	66.4	47.1	28.2	8.9	68.7	813
	21-23	100.0	100.0	100.0	100.0	99.6	96.9	86.2	64.0	27.1	83.6	812
TOTALS		100.0	100.0	99.7	95.9	87.1	70.1	63.8	47.8	22.3	75.3	6481

RELATIVE HUMIDITY

542

MONTH

MONTH	HOURS (L.S.T.)	PERCENTAGE FREQUENCY OF RELATIVE HUMIDITY GREATER THAN									MEAN RELATIVE HUMIDITY	TOTAL NO. OF OBS.
		10%	20%	30%	40%	50%	60%	70%	80%	90%		
JAN	00-02	100.0	100.0	100.0	100.0	99.7	96.8	91.9	75.3	40.0	40.7	782
	03-05	100.0	100.0	100.0	100.0	100.0	99.1	93.4	82.7	47.1	48.5	796
	06-08	100.0	100.0	100.0	100.0	100.0	99.7	93.9	85.3	45.5	48.2	792
	09-11	100.0	100.0	100.0	99.7	93.1	77.4	54.5	32.8	12.1	72.9	778
	12-14	100.0	100.0	99.4	89.9	69.4	45.4	26.2	14.3	5.9	61.0	791
	15-17	100.0	100.0	99.7	89.6	69.1	46.3	27.7	15.5	5.7	61.5	786
	18-20	100.0	100.0	100.0	99.1	93.0	79.5	58.7	34.5	10.7	73.2	791
	21-23	100.0	100.0	100.0	99.9	99.2	95.5	88.0	65.1	27.2	63.5	793
TOTALS		100.0	100.0	99.9	97.3	90.4	80.0	66.8	50.2	24.3	76.9	6303

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0-87-5 (OL A)

RELATIVE HUMIDITY

73-81

35!

STATION

STATION NAME

PERIOD

MONTH

MONTH	HOURS (L.S.T.)	PERCENTAGE FREQUENCY OF RELATIVE HUMIDITY GREATER THAN									MEAN RELATIVE HUMIDITY	TOTAL NO. OF OBS.
		10%	20%	30%	40%	50%	60%	70%	80%	90%		
JAN	00-02	100.0	100.0	100.0	99.5	98.9	94.2	84.2	65.0	32.6	43.4	804
	3-05	100.0	100.0	100.0	100.0	99.1	95.8	87.9	72.5	38.5	55.5	604
	6-08	100.0	100.0	100.0	100.0	99.4	95.8	89.0	73.8	38.4	45.6	815
	9-11	100.0	100.0	100.0	99.1	93.6	77.9	58.6	35.9	14.9	73.5	814
	12-14	100.0	100.0	99.4	92.3	74.7	52.9	32.5	15.5	6.1	63.0	609
	15-17	100.0	100.0	99.0	89.9	74.3	52.7	32.4	16.4	5.9	62.9	818
	18-20	100.0	100.0	100.0	99.1	94.2	82.6	60.2	38.0	14.6	74.5	815
	21-23	100.0	100.0	100.0	99.6	97.8	92.0	78.3	55.6	25.5	80.7	820
TOTALS		100.0	100.0	99.8	97.4	91.5	84.5	65.4	46.3	22.1	76.2	6503

FORM
JUL 64

0-87-5 (OL A)

RELATIVE HUMIDITY

73-81

405

STATION

STATION NAME

PERIOD

MONTH

MONTH	HOURS (L.S.T.)	PERCENTAGE FREQUENCY OF RELATIVE HUMIDITY GREATER THAN									MEAN RELATIVE HUMIDITY	TOTAL NO. OF OBS.
		10%	20%	30%	40%	50%	60%	70%	80%	90%		
MAY	00-02	100.0	100.0	100.0	99.9	98.9	94.1	81.2	50.4	30.5	22.0	793
	03-05	100.0	100.0	100.0	100.0	99.6	96.1	83.3	62.7	53.7	43.2	785
	06-08	100.0	100.0	100.0	100.0	100.0	97.6	84.5	66.8	54.9	44.2	788
	09-11	100.0	100.0	100.0	100.0	99.2	90.7	70.4	46.4	25.8	15.6	783
	12-14	100.0	100.0	99.6	96.5	87.1	66.2	41.4	25.8	13.3	68.6	780
	15-17	100.0	100.0	98.9	95.3	84.8	64.5	42.1	28.6	15.1	68.7	784
	18-20	100.0	100.0	100.0	99.4	96.9	88.9	66.9	45.5	22.5	77.8	786
	21-23	100.0	100.0	100.0	99.7	98.1	94.4	76.7	55.3	29.2	51.0	790
TOTALS		100.0	100.0	99.8	98.9	95.6	86.6	68.3	43.7	25.4	76.0	6280

USAFETAC FORM 0-87-5 (OL A)

RELATIVE HUMIDITY

139 PHELPS-COLLINS/ALPENA MI

15-81

JEL

STATION

STATION NAME

PERIOD

MONTH

**CUMULATIVE PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)**

MONTH	HOURS (L.S.T.)	PERCENTAGE FREQUENCY OF RELATIVE HUMIDITY GREATER THAN									MEAN RELATIVE HUMIDITY	TOTAL NO. OF OBS.
		10%	20%	30%	40%	50%	60%	70%	80%	90%		
JUN	0-02	100.0	100.0	100.0	99.9	99.6	98.2	86.3	55.5	24.0	41.3	795
	03-05	100.0	100.0	100.0	100.0	99.5	96.9	88.4	57.9	24.0	42.2	795
	06-08	100.0	100.0	100.0	99.9	99.6	96.6	87.9	61.5	28.1	42.9	815
	09-11	100.0	100.0	100.0	100.0	99.0	95.0	82.8	57.7	23.1	41.4	804
	12-14	100.0	100.0	100.0	99.9	97.0	85.1	60.4	35.3	11.4	74.4	813
	15-17	100.0	100.0	100.0	99.5	96.3	84.8	56.6	31.0	11.9	73.3	807
	18-20	100.0	100.0	100.0	99.9	99.0	94.5	76.3	44.5	21.0	79.0	811
	21-23	100.0	100.0	100.0	100.0	99.5	97.0	82.7	52.6	21.4	80.8	804
TOTALS		100.0	100.0	100.0	99.9	98.7	93.5	77.7	49.5	20.7	74.5	6444

USAFETACFORM
 101-101

0-87-5 (OL A)

GLOBAL CLIMATOLOGY BRANCH
 USAFETAC
 AIR WEATHER SERVICE/MAC

RELATIVE HUMIDITY

1039 PHELPS-COLLINS/ALPENA MI

13-81

ALL

STATION

STATION NAME

PERIOD

MONTH

CUMULATIVE PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

MONTH	HOURS (LST)	PERCENTAGE FREQUENCY OF RELATIVE HUMIDITY GREATER THAN									MEAN RELATIVE HUMIDITY	TOTAL NO OF OBS.
		10%	20%	30%	40%	50%	60%	70%	80%	90%		
JAN	ALL	100.0	100.0	100.0	99.4	96.2	86.1	65.3	34.1	14.4	75.0	6448
FEB		100.0	100.0	99.8	95.5	92.2	79.8	59.0	33.7	14.2	74.0	4947
MAR		100.0	100.0	99.2	95.0	87.9	76.3	60.2	41.9	20.5	73.4	6547
APR		100.0	99.7	95.4	86.5	74.2	60.2	45.0	32.2	16.4	66.6	6375
MAY		100.0	99.6	95.1	84.8	72.6	59.9	46.3	32.6	13.2	65.4	7343
JUN		100.0	100.0	98.7	91.3	79.8	66.9	54.0	37.8	16.6	70.4	8334
JUL		100.0	100.0	98.6	92.5	80.8	66.2	54.8	35.6	18.1	71.1	8614
AUG		100.0	100.0	99.7	95.9	87.1	76.1	63.8	47.8	22.3	75.3	6481
SEP		100.0	100.0	99.9	97.3	90.4	80.0	66.8	51.2	24.3	76.9	6303
OCT		100.0	100.0	99.8	97.4	91.5	80.5	65.4	46.3	22.1	76.2	6503
NOV		100.0	100.0	99.8	98.9	95.6	86.6	68.3	48.7	25.4	78.0	6280
DEC		100.0	100.0	100.0	99.9	98.7	93.5	77.7	49.5	20.7	79.5	6444
TOTALS		100.0	99.9	95.8	94.9	87.3	76.2	60.6	41.3	19.4	73.6	76719

USAFETAC

FORM
JUL 64

0-87-3 (OL A)

U S AIR FORCE
ENVIRONMENTAL TECHNICAL
APPLICATIONS CENTER

PART F

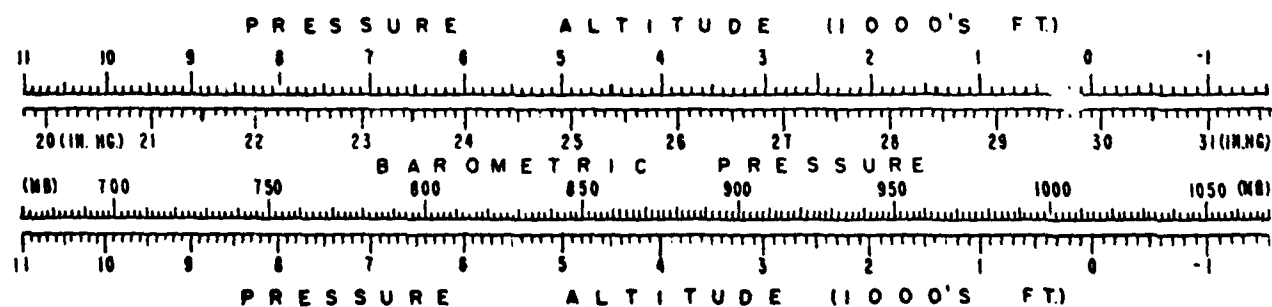
PRESSURE SUMMARY

Presented in this part are two tables giving the means, standard deviations, and total number of observations of station pressure and sea-level pressure by month and annual for the local hourly observations corresponding to the eight 3-hourly synoptic times GCT. The same computations are also provided at the bottom of the page for all hours combined. All years of data available are combined in both of these tables, although the overall period is limited by service as indicated below.

NOTES: Station pressure not reported for all services until late in 1945.
Station pressure reported only at 6-hourly times for Air Force stations from Jan 64 - Jul 65.
METAR stations do not report Sea-level pressure for the period Jan 68 - Dec 70.

1. Station pressure is presented in the table in inches of mercury.
2. Sea-level pressure is presented in millibars.

Provided below is a scale to convert station pressure values in inches of mercury or millibars to pressure-altitude in 1000's of feet. This scale is an enlarged model of the pressure-altitude scale in the Smithsonian Meteorological Tables.



2
FEDERAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

MEANS AND STANDARD DEVIATIONS

STATION PRESSURE IN INCHES HG FROM HOURLY OBSERVATIONS

STATION		STATION NAME												YEARS	
PHELPS-COLLINS/ALPENA MI		73-81													
HRS. LST.		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	
1	MEAN	29.20329	20429	20829	22729	19729	19029	22629	21529	26829	26129	23029	231	29.231	
	S D	.277	.274	.255	.257	.169	.165	.142	.139	.165	.230	.255	.264	.226	
	TOTAL OBS	265	247	272	263	274	265	272	274	264	270	261	269	3196	
4	MEAN	29.20729	25729	20129	22229	18829	18129	22029	26529	26129	25629	22429	232	29.226	
	S D	.283	.295	.263	.263	.178	.192	.147	.144	.173	.236	.256	.269	.231	
	TOTAL OBS	259	248	274	266	275	265	274	270	264	267	261	267	3190	
7	MEAN	29.20729	26429	21229	24729	21229	20129	24129	28329	28129	26729	25229	231	29.240	
	S D	.292	.304	.273	.264	.186	.197	.154	.148	.179	.240	.262	.273	.234	
	TOTAL OBS	276	254	275	266	276	267	271	269	265	275	263	273	3232	
10	MEAN	29.22429	27829	22329	24629	21029	20529	24429	29029	28529	28229	24629	245	29.248	
	S D	.291	.312	.278	.265	.184	.194	.152	.149	.180	.241	.261	.274	.239	
	TOTAL OBS	265	249	279	262	270	264	267	268	261	269	262	269	3185	
13	MEAN	29.20929	26429	20629	23529	19929	19329	23529	27829	27029	25829	22629	217	29.232	
	S D	.294	.312	.281	.260	.184	.194	.146	.146	.175	.239	.259	.278	.238	
	TOTAL OBS	272	249	271	264	275	264	273	270	266	274	265	271	3214	
16	MEAN	29.19829	24229	18429	21329	18129	17729	21629	25329	24829	23929	21129	216	29.215	
	S D	.285	.301	.266	.246	.174	.187	.139	.139	.167	.232	.252	.272	.229	
	TOTAL OBS	266	247	275	265	276	265	274	272	260	276	257	270	3205	
19	MEAN	29.22429	26429	19829	21729	18129	17429	21429	25729	26029	26129	23629	227	29.226	
	S D	.279	.293	.258	.242	.165	.182	.133	.135	.161	.231	.249	.273	.225	
	TOTAL OBS	271	248	272	267	271	266	275	270	267	271	261	271	3210	
22	MEAN	29.22129	26729	21129	23729	20029	19029	22929	27229	27229	26529	23129	229	29.235	
	S D	.287	.295	.254	.246	.164	.182	.131	.133	.161	.229	.250	.269	.223	
	TOTAL OBS	265	248	276	267	273	267	276	271	266	277	264	271	3221	
ALL HOURS	MEAN	29.21229	26229	20529	23029	19629	18929	22829	27229	26829	26129	23029	229	29.232	
	S D	.285	.300	.266	.255	.176	.189	.143	.142	.170	.235	.255	.271	.231	
	TOTAL OBS	2143	1990	2194	2120	2190	2123	2182	2164	2113	2179	2094	2161	25653	

2

NATIONAL CLIMATOLOGY BRANCH
AFGLTAC
AIR WEATHER SERVICE/MAL

MEANS AND STANDARD DEVIATIONS

SEA LEVEL PRESSURE IN MBS FROM HOURLY OBSERVATIONS

73-59 PHELPS-COLLINS/ALPENA MI

73-81

STATION		STATION NAME												YEARS											
HRS LST		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL											
1	MEAN	1015.71	1017.71	1015.51	1015.81	1014.31	1013.81	1015.01	1016.81	1016.81	1016.81	1015.91	1016.5	1015.9											
	S D	10.033	10.624	9.156	9.153	6.129	6.599	5.072	4.899	5.969	8.175	9.121	9.506	8.143											
	TOTAL OBS	215	246	212	265	275	265	269	269	260	269	263	270	3192											
2	MEAN	1015.01	1017.61	1015.11	1015.51	1014.11	1013.51	1014.81	1016.41	1016.51	1016.61	1015.71	1016.4	1015.7											
	S D	10.409	10.653	9.500	9.363	6.433	6.819	5.251	5.107	6.262	8.472	9.136	9.667	8.348											
	TOTAL OBS	269	247	273	264	272	265	273	268	265	269	260	268	3193											
3	MEAN	1015.91	1017.81	1015.61	1016.51	1014.81	1014.21	1015.51	1017.11	1017.11	1017.01	1016.01	1016.4	1016.2											
	S D	10.460	10.935	9.152	9.557	6.634	6.927	5.455	5.217	6.384	8.557	9.288	9.713	8.475											
	TOTAL OBS	217	254	275	267	276	266	272	269	267	275	263	273	3234											
4	MEAN	1016.61	1018.41	1016.01	1016.51	1014.81	1014.41	1015.71	1017.31	1017.31	1017.61	1016.61	1016.9	1016.5											
	S D	10.623	11.364	9.983	9.436	6.677	6.858	5.401	5.267	6.428	8.624	9.265	9.814	8.599											
	TOTAL OBS	215	249	279	262	272	264	266	269	260	269	262	270	3197											
5	MEAN	1015.01	1017.61	1015.31	1016.01	1014.31	1013.91	1015.31	1016.81	1016.71	1016.71	1015.81	1015.9	1015.8											
	S D	10.008	11.343	9.986	9.213	6.521	6.858	5.187	5.145	6.232	8.461	9.196	9.815	8.479											
	TOTAL OBS	274	250	273	265	276	266	273	271	266	274	265	271	3224											
6	MEAN	1015.61	1016.91	1014.61	1015.31	1013.71	1013.41	1014.61	1016.01	1016.01	1016.01	1015.31	1015.8	1015.3											
	S D	10.248	10.912	9.551	8.843	6.209	6.627	4.964	4.945	5.992	8.275	9.004	9.684	8.211											
	TOTAL OBS	214	241	275	265	273	265	274	272	259	276	258	270	3208											
7	MEAN	1016.41	1017.71	1015.11	1015.41	1013.71	1013.31	1014.51	1016.11	1016.51	1016.91	1016.21	1016.2	1015.7											
	S D	10.017	10.687	9.208	8.555	5.895	6.451	4.689	4.810	5.749	8.169	8.844	9.696	8.050											
	TOTAL OBS	270	249	272	267	272	265	275	270	267	269	260	270	3206											
8	MEAN	1016.31	1016.01	1015.61	1016.11	1014.51	1013.91	1015.11	1016.71	1017.01	1017.01	1016.11	1016.5	1016.0											
	S D	10.113	10.456	9.114	8.740	5.915	6.452	4.668	4.695	5.785	8.228	8.892	9.678	8.023											
	TOTAL OBS	267	250	277	266	274	267	275	271	267	277	264	270	3225											
ALL HOURS	MEAN	1016.01	1017.71	1015.31	1015.91	1014.31	1013.81	1015.11	1016.61	1016.71	1016.81	1016.01	1016.3	1015.9											
	S D	10.293	10.865	9.529	9.081	6.311	6.700	5.097	5.024	6.107	8.369	9.087	9.687	8.300											
	TOTAL OBS	2117	1992	2196	2119	2190	2121	2177	2159	2111	2178	2095	2162	25679											

END

DATE
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